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ABSTRACT

This curriculum guide is a compilation of curriculum pieces that have appeared either in "Intercom" or in another earlier curriculum guide but are still vital and relevant; what binds the issues in the pieces together is the urgency of the problems they pose--urgent issues for both developed and "underdeveloped" nations anywhere on the face of the earth. Materials in the guide have been statistically updated, and many of the classroom strategies incorporate some of the most recent knowledge about student learning. Activities in the guide are: (1) "Setting a Framework in Teaching about Global Issues"; (2) "Becoming a Population Detective"; (3) "What Is Hunger? What Is Health?"; (4) "Digging to the Roots of Hunger"; (5) "Helping to End Hunger"; (6) "Shared Understanding"; (7) "How Can We Best Understand Life in Developing Countries?"; (8) "Perception and the Environment"; (9) "Is There a Water Crisis?"; (10) "Developing an Energy Policy--A Decision Making Simulation"; (11) "On Your Own"; and (12) "A Feeling for the Earth." Each activity contains performance objectives, classroom procedures, worksheets, and fact sheets. (BT)

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Teaching about Global Issues

SO 029 679

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Teaching about Global Issues

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The American Forum for Global Education is a not-for -profit, non-partisan organization dedicated to promoting national citizenship in a global age. The American Forum was created in 1987 through a merger of Global Perspectives in Education (GPE) and the National Council on Foreign Language and International Studies (NCFLIS).

Preface

The American Forum for Global Education has long held a strong interest in developing and disseminating effective classroom curriculum. It is our belief that one of our functions is to provide new resources and new strategies to assist educational practitioners and, in whatever way possible, make their very difficult jobs somewhat easier. This can be partially accomplished through the creation of curriculum guides. These packets of materials for teachers feature interesting and challenging student material coupled with teacher worksheets which will encourage teachers to "take risks" in their classrooms by attempting innovative new approaches with their students.

This curriculum guide, **Teaching About Global Issues:** ***Population, Health, Hunger, Culture, Environment*** is a compilation of curriculum pieces which are "oldies, but goodies." Most of these "lessons" had appeared previously in either ***Intercom*** (a publication of Global Perspectives in Education) or another earlier curriculum guide. After careful consideration, we believed they were worthy of a major recycling effort. We selected cogent and current themes which are vital in today's classrooms and bound them together loosely in this guide. What binds these issues together is the urgency of the problems they pose - urgent issues for both developed and "underdeveloped" nations anywhere on the face of the earth. Although the original lesson on population may have appeared about fifteen years ago, the work of major population agencies, both governmental and non-governmental, make us aware that the issue is more critical as we are entering the 21st century.

In fact, it would be correct to say that each of these lessons deals with a dilemma which plagues global educators. Our daily newspapers repeatedly tell us of hunger and health concerns at home and abroad. An epidemic can quickly become a pandemic and impact on people on all parts of the planet. The interconnectedness of the world makes it imperative that we all seek to better understand each other cultures and endeavor to share a better understanding of each other. And, of course, the preeminent concern of educators and citizens around the world is our environment, an environment faced with global warming and other issues which endanger the future of our world.

We have made a concerted effort to touch some of these issues in this curriculum guide. The material has been statistically updated, and many of the classroom strategies incorporate some of our most recent knowledge about student learning. We realize this is not an all-inclusive document; rather it is a starting point for teachers to further investigate these issues and create exciting classroom lessons. We believe this material will be useful and look forward to your comments.

I wish to thank A. Manuel Garcia for all his assistance in bringing this project to fruition.

Hazel Sara Greenberg
Director of Curriculum

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ACTIVITY ONE: SETTING A FRAMEWORK IN TEACHING ABOUT GLOBAL ISSUES

PERFORMANCE OBJECTIVES: Students will be able to

- respond to a questionnaire surveying student's attitudes
- question any of the assumptions in the questionnaire
- develop a fact bank on "developing nations"

PROCEDURE:

▸ Distribute **Worksheet 1: Questionnaire**

The questionnaire is designed to set the "frame of reference" for this unit by allowing students to examine their knowledge.

Allow students time to complete questionnaire. Students will check answers with a neighbor. Teacher will debrief class and list responses on chalkboard.

- What conclusions can we draw from the questionnaire?
- What questions that arise from the questionnaire should we investigate?

▸ It is important to gather information about population issues.

Distribute **Worksheet 2: Fact Sheet**

- Do these facts agree with or contradict your original answers on the questionnaire?
- What surprises you? Why?
- What questions do we have to answer as we study this unit?

▸ Our world today is changing rapidly.

Distribute **Worksheet 3: Our World Today**

- Students will read worksheet and respond to questions. Teacher will review questions with the class.

SUMMARY/APPLICATION:

- This introductory lesson is called "Setting a Framework".

  - Reexamining the material we have looked at, what framework can we develop?

Students will work in dyads or triads to develop a framework . Student work will be posted and student's will be given the opportunity to look at each other's work, making additions and corrections, as necessary.

(This framework will remain in class as a check list and students will refer to it throughout unit.)

ACTIVITY ONE: SETTING A FRAMEWORK

Worksheet 1: Questionnaire: Conditions on Planet Earth

True or False?

_____ 1. Most of the world's people get enough food to eat.

_____ 2. Enough food is produced in the world to provide a healthy diet for everyone.

_____ 3. The developing countries of the world (most nations of Africa, Asia, and latin America) have made little progress in their efforts to grow more food for their people.

_____ 4. More than one out of three of the world's people live in countries where the average person must live on less than $350 a year.

_____ 5. Most of the people of the developing countries are able to read and write.

_____ 6. Not much progress has been made in controlling disease and improving the health of the people in the developing countries of the world.

_____ 7. A new born baby in the Unites States will live 10-20 years longer on the average than one born in one of the developing countries of the world.

_____ 8. The United States and the other industrialized nations (including Japan, Russia, Canada, Australia, and the countries of Europe) account for about half of the world's people. The other half live in the developing countries of Latin America, and Asia.

_____ 9. All the people living in the developing countries lack enough money to adequately meet life's basic needs.

_____10. There is little difference between the various developing countries of the world; life in all of them is pretty much the same.

_____11. Conditions in the developing countries aren't getting any better.

_____12. There is little that the ordinary person can do to end widespread hunger and poverty in the world today.

_____13. The problems of the developing countries don't have much effect on the United States and its citizens.

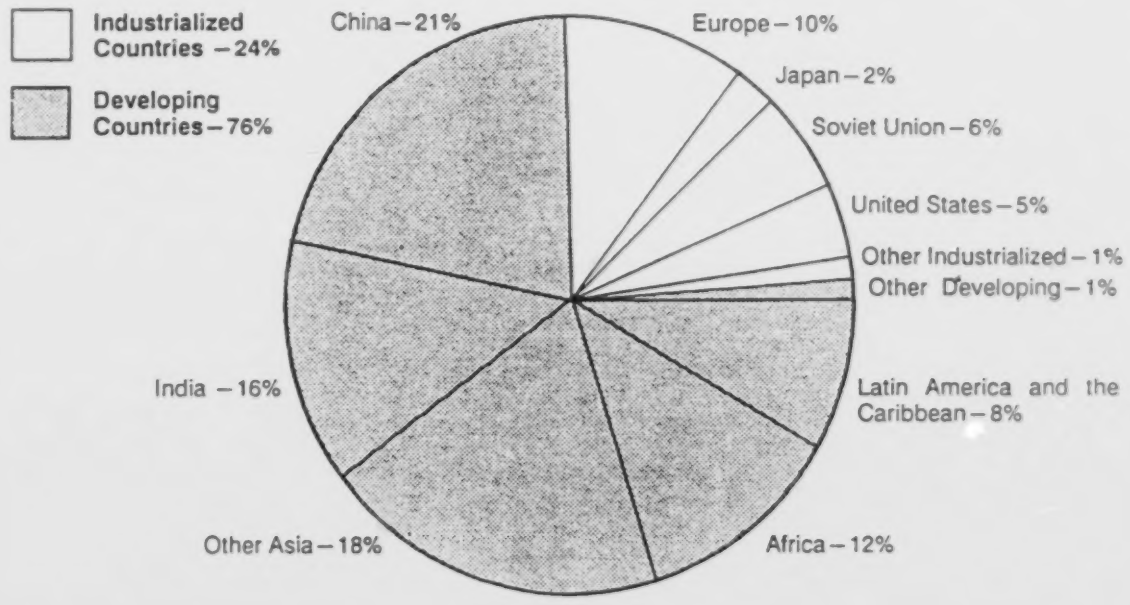
Historically "developing" refers to the those countries who may have been former colonies, recently independent and may be economically struggling.

ACTIVITY ONE: SETTING A FRAMEWORK

Worksheet 2: Fact Sheet 1

Conditions on Planet Earth

I World Population



Source: Population Reference Bureau

Fact Sheet 1: Planet Earth

Hunger

Approximately 500 million people, or 10% of the worlds 5 billion people are hungry and undernurished.

Source: United Nations, World Food Council

II Average Life Expectancy (in years)

	1960	1981	1993
Bangladesh	37	48	53
Brazil	55	64	67
China	41	67	70
Canada	71	75	77
Egypt	46	57	60
Ethiopia	..	46	46
Germany	70	73	75
India	43	52	59
Indonesia	41	54	59
Japan	68	77	79
Mexico	57	66	70
Nigeria	39	49	66
Saudi Arabia	43	55	66
South Korea	54	66	71
Switerland	71	76	77
United States	70	75	75

Source: World Bank & Population Reference Bureau

III Food Production in the Developing Countries

Food Supply

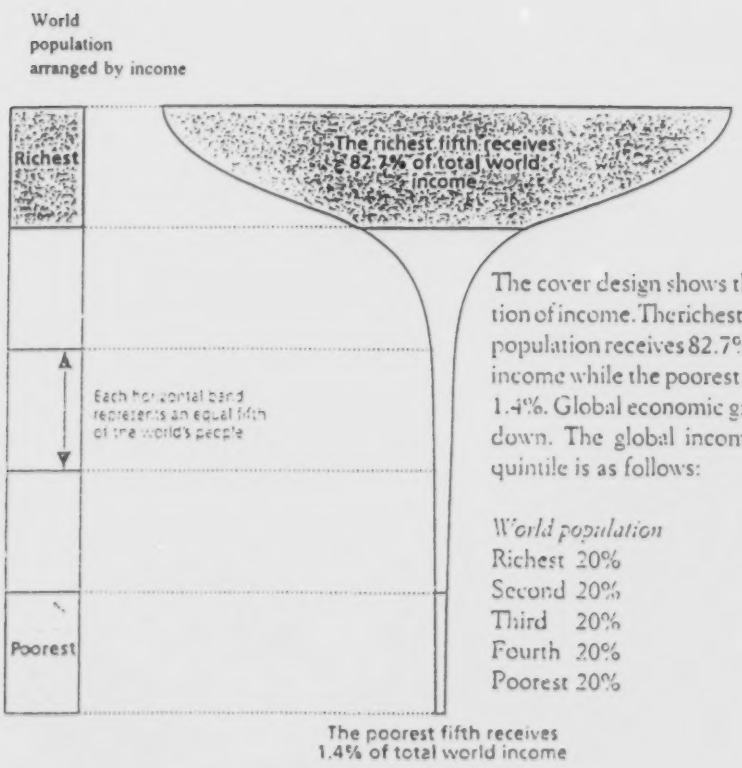
The food currently raised each year on earth is more than enough to adequately feed a billion more people than now inhabit the earth.

Source: The Hunger Project (based on data from the Population Reference Bureau, the Food and Agricultural Organization and the US Dept of Agriculture).

IV Literacy Rate in the Developing World

Source: United Nations

V Distribution of Income



The cover design shows the global distribution of income. The richest 20% of the world's population receives 82.7% of the total world income while the poorest 20% receives only 1.4%. Global economic growth rarely filters down. The global income distribution by quintile is as follows:

World population	*World income*
Richest 20%	82.7%
Second 20%	11.7%
Third 20%	2.3%
Fourth 20%	1.9%
Poorest 20%	1.4%

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ACTIVITY ONE: SETTING A FRAMEWORK

Worksheet 3: Our World Today

It is difficult to group all 170 of the world's nations into neat categories. However, most people agree that when countries are grouped by their **economic** well-being, they fall into two general groups.

The Industrialized Nations (Developed Countries): One-fourth of the world's people live in countries where the people's basic needs for food, clean water, health care etc. are relatively easily met. In general, these are the nations with the most industrialized economies. Usually included in this group are the United States, Canada, Japan, Australia, New Zealand, the Soviet Union, and nearly all the nations of Europe.

Some people prefer to call this group of nations the industrialized nations while others prefer the term developed nations. Still others simply call these nations the North, since nearly all are located in the northern part of the globe. See map on next page.

The Developing Countries Three-fourths of the world's people are not as fortunate. They live in countries where the basic necessities of life are not always easy to obtain and where many of the people face a daily struggle to survive. Often theses countries are collectively called the Developing World This region includes Latin America, Africa and most of Asia.

As with the industrialized countries, there is little agreement on what this group of countries should be called. The term "Third World" originated in the 1950s when the world was more clearly divided into opposing power blocs. During this time period, the term applied to the countries which were not aligned with either the Soviet Union or the United States. Today the use of the term Third World can be misleading since the 120 different countries of the "Third World" neither form a unified group nor make up a separate world. Another term often used for this group of nations is developing countries. This term also has limitations in that many countries are culturally, socially, environmentally, religiously, etc. "developed" not to mention the fact that all countries are developing in one way or another. Others use the term "South" since they are generally located in the southern hemisphere.

Questions

1. On the map on the following page, locate and label
   a) some of the world's major developing nations
   b) some of the world's major industrialized nations.

2. What is the difference between the Industrialized Nations and the Developing World?

3. The terms industrialized nations, developed nations, and the North are all terms used to describe the countries of the world that are relatively well off economically. But objections have been raised to each of these terms as being misleading or not entirely accurate. Try to identify what is misleading about each of the terms. Clues: Is a country like Australia with so much unused land and resources "developed"? Are all industrialized nations well off economically? socially? environmentally? Are all these nations in the North?

4. The terms Third World, developing nations, and the South are all terms used to describe the countries that are not as well off economically. Objections have also been raised to each of these terms. Try to identify what is misleading about each of these terms. Clues: Do these nations comprise a separate world? Aren't all nations developing and changing as time goes by? Are all these nations located in the southern part of the globe?

5. What terms would you suggest be used to describe these two group of nations?

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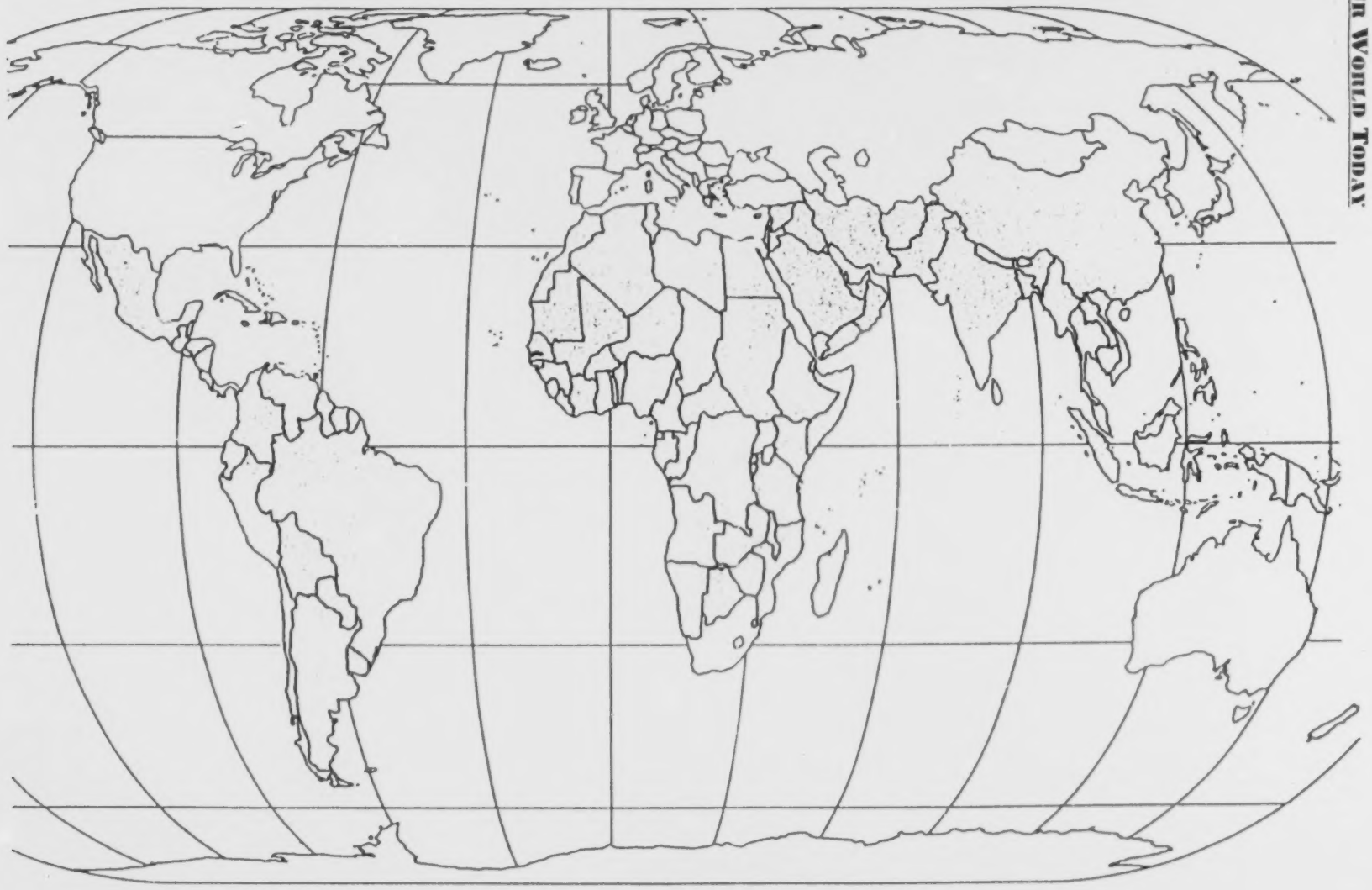


Developing Countries

Industrialized Countries

Note: The countries considered to be "Third World" or "developing" countries vary slightly depending on what definitions and what indicators are used to classify them. Portugal, Israel, Albania, South Africa, and Yugoslavia are sometimes grouped with the developing countries rather than the industrialized ones.

Activity Two: Becoming a Population Detective

Performance Objectives: Students Will Be Able To

- define vocabulary associated with population
- examine & discuss maps/charts related to population issues
- develop a world population plan

Teacher Background:

This lesson helps students understand that knowing "where" an event is happening or a trend developing is often an important clue in discovering "why" it is happening. Basic maps skills are reviewed.

Procedure:

▸ Place 5,506,000,000 on the blackboard

- What is that number?
- What details do we need to know about that number to make it understandable?

▸ Introduce the term "demographer".

- As population detectives, what other facts about world population need to be investigated?
- Where do all those people live?
- How many of them are adults? Children?
- How many are male or female?

After recording their questions, discuss sources where they could find answers.

▸ It is important to know where something is happening.

Distribute **Worksheet 1: Where in the World are All the People?**

Distribute **Worksheet 2: Population Growth and the Basic Facts**

- How can knowing about a location, or "where" some place is, often give us information about the special ways of dressing, talking, acting, or otherwise behaving?

- What other implications does "where" have? (When you give students the reading, tell them that these materials will help them answer their questions about where in the world all the people live.)

- Review the answers to the questions.

▸ Sometimes a society believes it can step in & control population.

Distribute **Worksheet 3: Controlling Population Growth in China.**
Allow students time to complete reading questions.
Teacher will review answers with the class.

- If you could establish a population policy for a country undergoing rapid population growth, Would you follow the Chinese example? Why? Why not?
- What other solutions can you think of? Explain.

SUMMARY/APPLICATION

▸ We have looked at the population issue in China

- What other world regions have population problems? Why?
- What areas have a shortage of population?
- How has this population disparity led to internal problems? Explain.

▸ Based on your responses, how would you go about creating a world population plan?
- Students will work in groups & report to the rest of the class.

Intercom 101 (1982)
Writers: Alan Backler, Robert Harvey, Howard Mehlinger, John Patrick, Mary Soley, S.J. Swensson.

Activity Two: Becoming a Population Detective

Worksheet 1: Where In The World Are All The People?

o There are about 5,506,000 people living on the earth. To you, as a population detective, that is an interesting fact. But where do they all live? To get a rough idea, look at the world map shown here.

o Preview the map by: inspecting the map title; checking the map notes; and examining the map key. No map scale or compass appears on this map.

o In your own words, what is this map about? What do the map notes tell you What does the key indicate?

Questions:

To help you discover the information in the map, answer the following questions on a separate piece of paper.

1. According to the map, do you live in an area where there are many people or few people?
2. What parts of North America have many people?
3. On what parts of the world map are there thick clusters of dots?
4. On what parts of the world map are there few or no dots?
5. Detectives often have theories or possible explanations for why things have happened. Make a list of at least three reasons why you think so many people live in certain areas. (Hint: Think about human survival needs.) How could you test your theories?
6. If you were in charge of planning for the future of the world in the year 2020, why would a population distribution map such as this one be an important tool for you to have? Make a list of at least five reasons.

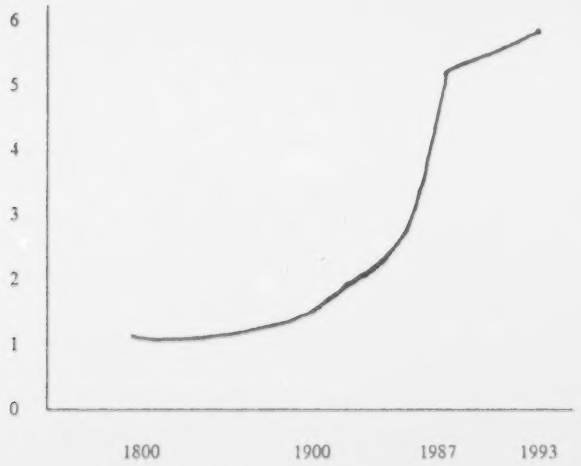
Current World Population

Each dot represents 1,000,000 people

ACTIVITY TWO: BECOMING A POPULATION DETECTIVE

Worksheet 2: Population Growth: The Basic Facts (Graphs & Charts)

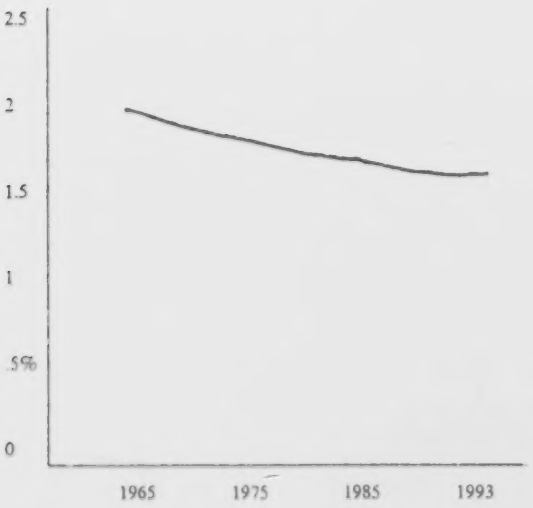
I Growth of the World Population (billions of people)



Source: Population Reference Bureau

In 1987, the world's population passed the 5 billion mark. According to United Nations estimates, there will be 8.3 billion people living on earth by 2025.

II Annual Population Growth Rate

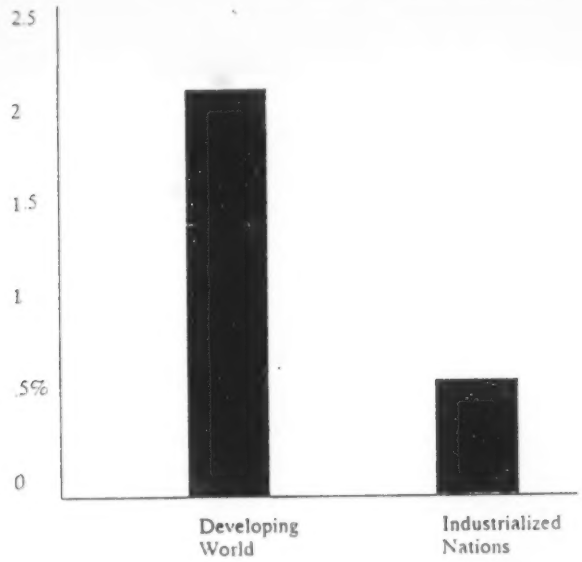


Source: United Nations

By 2025 world population will be growing at a rate of 1% a year, according to United Nations estimates.

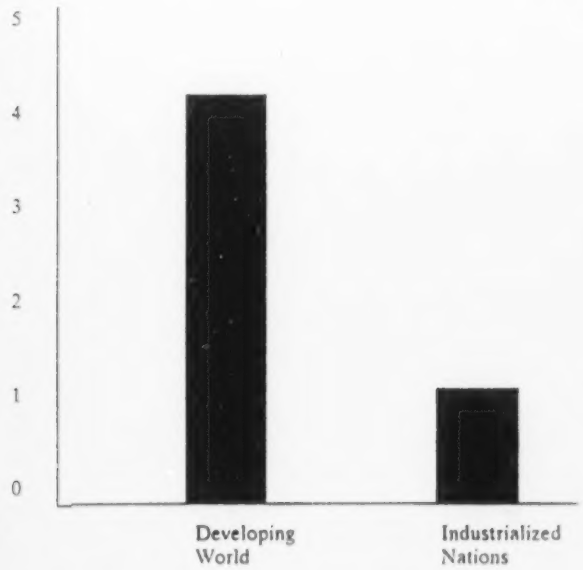
ACTIVITY TWO: BECOMING A POPULATION DETECTIVE

III Population Growth Rate of Developing World and Industrialized Nations (1993)



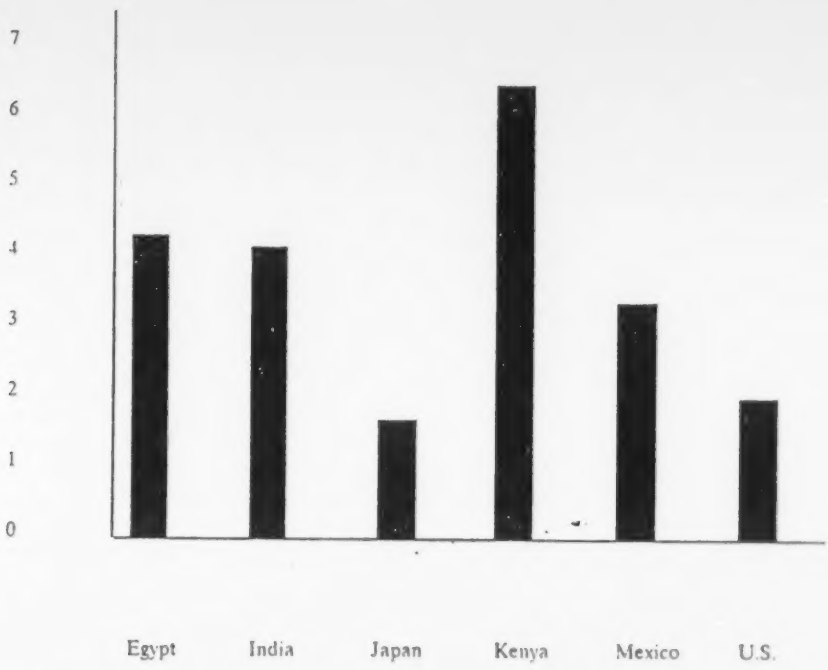
Source: United Nations

IV Population of Developing World and Industrialized Nations (1993)



Source: United Nations

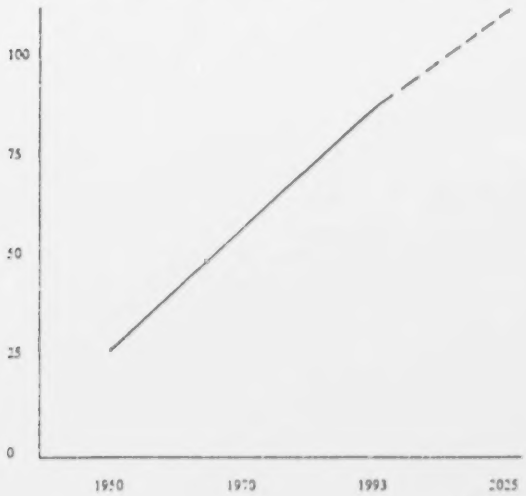
V Fertility Rates* in Selected Countries



Source: U.N. Fund for Population Activities

*The Fertility Rate is the average number of children a woman of child-bearing age will have in her lifetime.

VI Mexico's Population Growth (millions)



Source: U. N. Fund for Population Activities

Mexico's population growth is typical of the developing world. The rapid increase in the number of people to be fed, clothed, educated and employed has made it difficultfor Mexico to keep up, much less make any improvements in the standard of living of its people.

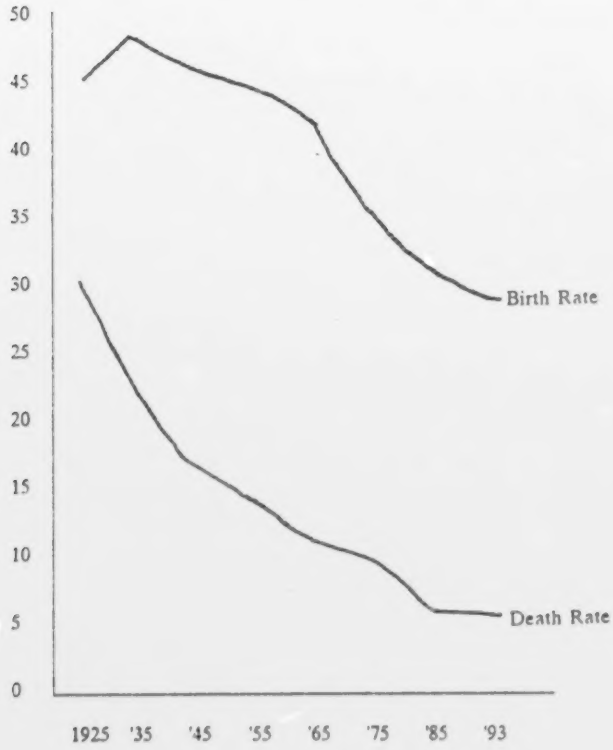
VII Fertility Rates in the Developing World

The high fertility found in most developing countries are about the same as those experienced by the industrialized nations earlier in their development (before the industrial revolution). As a nation develops, its fertility rate generally falls. Fertility rates in most developing countries are slowly declining.

Some of the reasons why women of the developing world generally have more children than women of the industrialized nations are:

- **Old-Age Security.** In the Developing Nations, having many children means old-age security. By having a large family, the parents are assured that enough children will grow up to support them in their old age.
- **Higher Child Mortality Rate.** Where health care and sanitation are poor, it is necessary to have many children to ensure that a few will survive to adulthood.
- **Different Cultural Values.** In many cultures, customs, beliefs, and traditions encourage people to have large families. In much of the developing world, a child is regarded as a gift from God, and a man & woman's worth may be judged by how many children they have. The more children, the more "masculine/feminine" they are.
- **Lack of Family Planning Services.** Many people in developing countries do not have access to family planning information and services.
- **The More Hands the Better.** In parts of the developing world, people live directly off of the land. In these agrarian settings the more hands a family has to work the land the better.

VIII Birth and Death Rates in Mexico*



*The Birth Rate is the number of births per 1,000 inhabitants. The Death Rate is the number of deaths per 1,000 inhabitants.

Source: United Nations

The populations of Mexico and other developing countries are growing *-not* because they are having more babies- but because fewer people (especially babies) are dying. The Developing World's population growth is the result of improved health care, sanitation, and nutrition.

Activity Two: Becoming a Population Detective

Worksheet 3: Controlling Population Growth in China

China's population has grown rapidly - from 541 million in 1949 to over a billion people today. However, in the last few years, China has reduced its population growth rate to about one percent a year, the lowest of any nation in the developing world. In fact, since China's population accounts for 22% of the world's total population, most of the recent decline in the world's population growth rate has been the result of what's been happening in China. China's leaders plan to further reduce growth so that the nation's population will stabilize at about 700 million (300 million less than it now has) by the middle of the next century.

By law husbands and wives must practice family planning, agreeing to have a child only when it has been approved by their worker group (called a "production brigade"). Each are given a quota of how many babies its members may have in a given year. The women of the population brigade meet together in order to work out who may have babies that year. If a woman becomes pregnant without the approval of the production brigade, there may be pressure on her to have an abortion. One-child families are strongly encouraged and rewarded with many economic and educational benefits.

Many Westerners have criticized the lack of individual freedom under the new Chinese population policy. However, the Chinese government places greater emphasis on the well-being of the group than on the freedoms of the individual. Chinese leaders argue that reducing China's population growth is one of the most effective ways to improve the standard of living of the Chinese people.

Questions:

1. What are some effects of population growth on the development efforts of developing nations? In what ways is population growth a cause of poverty in the developing world? Would ending population growth end poverty?

2. Why do fertility rates generally fall as a nation develops? In what way is poverty a cause of the rapid population growth in developing countries? Would ending poverty end rapid population growth?

3. Most developing nations have adopted the goal of reducing their population growth. In your opinion, should reducing population growth be part of a nations' development effort? Explain your reasoning.

4. China's population policy is highly controversial. List the pros and cons of this policy. In your opinion, is China's policy good or has it gone too far? Explain the reasons behind your judgement. What actions do you think the government of a developing nation should take if it wants to reduce population growth?

5. Some people believe that population growth must be slowed if the developing world is to make progress toward its development goals. Other people argue that population growth is not the problem. They argue that population growth will naturally fall as the "real" problems - poverty, illiteracy, the unequal status of women, etc. -are resolved. In your opinion, is population growth in the developing world a central problem? Explain your view in a well written paragraph.

ACTIVITY THREE: WHAT IS HUNGER? WHAT IS HEALTH?

PERFORMANCE OBJECTIVE: Students Will Be Able To

- define one global hunger dilemma
- discuss good nutrition & compare it to various forms of hunger found around the world.
- evaluate the depth of the world-wide hunger problem

TEACHER BACKGROUND:

This lesson is an introduction to the global hunger dilemma. Students will learn about good nutrition before discussing nutritional deficiencies and the various forms of hunger found in the world. The lesson concludes with some statistical descriptions of the world population. Examining population ratios will help students grasp the magnitude of the hunger problem.

PROCEDURES:

- Distribute **Worksheet 1: <u>The Hunger Sheet.</u>** This is an "attention-grabber;" use it to help students assess their own feelings about global hunger. Questions you might ask include:

  - How many people in the world are hungry? (500 million to 1 billion)
  - How may people in the world die each year from hunger related causes? (15-20 million)
  - In what part of the world do most of the hungry live? (Southern Hemisphere)
  - How many U.S. citizens are malnourished? (40 million)
  - Hunger is a problem which cannot be solved because there simply is not enough food to feed everybody. (false)

- Hunger is a solvable problem. Many countries have significantly reduced the magnitude of their domestic hunger problem. The President's Commission on World Hunger says it is possible to eliminate the worst aspects of global hunger and malnutrition by the year 2000 if we commit ourselves to it.

  Distribute **Worksheet 2: <u>U.S. Reorganizes Nutrition Advice</u>**

- What are the five basic nutrient groups?

- What are average caloric/protein requirements for individual heights and weights?

(We strongly recommend that students examine their own diets and that results are shared only voluntarily. Many students may be embarrassed to share information about what they eat, particularly if they are overweight. If they withhold information on their analysis they defeat the whole purpose of the activity.)

Distribute **Worksheet 3: <u>What is Hunger? What is Health?</u>**

(Teacher Notes: The second part of this lesson focuses on the different types of hunger followed by a section on global statistics. A word of caution is appropriate here. Global statistics are extremely difficult to calculate. It is only recently that our technology and data-collecting experience have enabled us to obtain estimates for world population, life expectancy, literacy, and other social and economic indicators. Data collection problems are further complicated by definition discrepancies. Estimates for the number of hungry in the world vary according to which definition of hunger is used. Conservative estimates of the hungry are in the 500 million range; UNESCO estimates that 100 million of these are children under the age of 5 suffering from malnutrition. Other estimates are much higher. The World Bank, for example, states that over 1 billion people - nearly a quarter of the human race - are chronically undernourished. Students should be aware of the limitations of the data. You might begin by asking them how they think such data is collected. A discussion of how difficult data-collections is in areas with less sophisticated technology and with less commitment to obtaining such information can help them understand the limitations of data-collecting.)

- Do you agree that hunger is a global problem?
- What information did we learn from the chart "our class is a global village?"

▸ Distribute **Worksheet 4: <u>People & Calories</u>**

- What further information did Worksheet 4 tell us about the hunger question?

(Teacher Notes: "People and Calories" map is really two maps - one superimposed upon the other. One is a world physical map; the other is a cartogram. A cartogram is a thematic map on which area sizes have been distorted intentionally to show statistical information in graphic form. In this case, the distortions refer to population size. Students will probably need to refer to a world political map to answer the map questions and to identify some of the countries.

Be careful that students do not overemphasize population as a cause of hunger. This may be their first reaction to the map. A closer look however, shows that population is not a consistent cause. Note that most of Africa, which is relatively underpopulated given its land mass, is just as hungry as India; and hungrier than China, Japan, England, and France - all countries that have a much higher people-land ratio.

When discussing the map questions, have students make two charts on the chalkboard to record their answers for question #6. Put the data for the countries whose average caloric intakes are above adequate on one chart and the data for the countries whose average caloric intakes are inadequate on another. What are the most striking differences? What characteristics are common to the "hungry" nations? To the "well-fed" nations?)

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SUMMARY/APPLICATION (TEACHER SHOULD SELECT ONE ACTIVITY!)

- Many people have become more diet conscious in recent years, leading to the creation of a whole new "health food" industry. Unfortunately, some people are misled by this label. "Health," or "natural' does not always translate into "nutritious." People trying to limit their calories should be especially careful. A "candy-bar" of honey, carob, brown sugar, and whole wheat flour is still a candy bar and very high in calories.

  - What is considered "health" food today?
  - Are they nutritious (do they provide a variety of nutrients)?
  - Are they high in calories? Which of the products are calorie-efficient (a high nutrient/calorie ratio); which are empty calories (a low nutrient/calorie ratio)?

- We often eat the foods we see advertised in the media. Have students survey magazine, television, and newspaper ads to see what kinds of products are promoted. Have them analyze these products to see which of the basic nutrients each provides. If these ads are representative of an average diet, what would that diet consist of? Can they draw and conclusions about how the media affects our diet?

- Hunger is not a problem we hear about often in the media. Have students survey newspapers as well as local and national news programs for their coverage of hunger and hunger-related topics.

  - How many stories appear on hunger?
  - Do they deal with famine or malnutrition.
  - Why do students think there are so few stories on hunger when it affects at least a half billion people in the world?
  - What do students think can be done to make hunger a "hotter" topics for the media?
  - Collect the suggestions and select those which seem the most practical for class action.

Intercom 102
Writers: Fred C. Czarra, Cathryn Long, Jane Simpson

ACTIVITY THREE: WHAT IS HUNGER? WHAT IS HEALTH?

Worksheet 1: <u>The HUNGER Sheet</u>

H unger is a global problem affecting people in every part of the world, including people in your own community.

U ndernutrition prevents people from realizing full human capacity - physically, intellectually, and emotionally.

N early 15-20 million people die each year of hunger or hunger related causes

G rains are the primary source of protein for most of the world and enough of them are grown to provide every man, woman, and child on earth with a healthy diet.

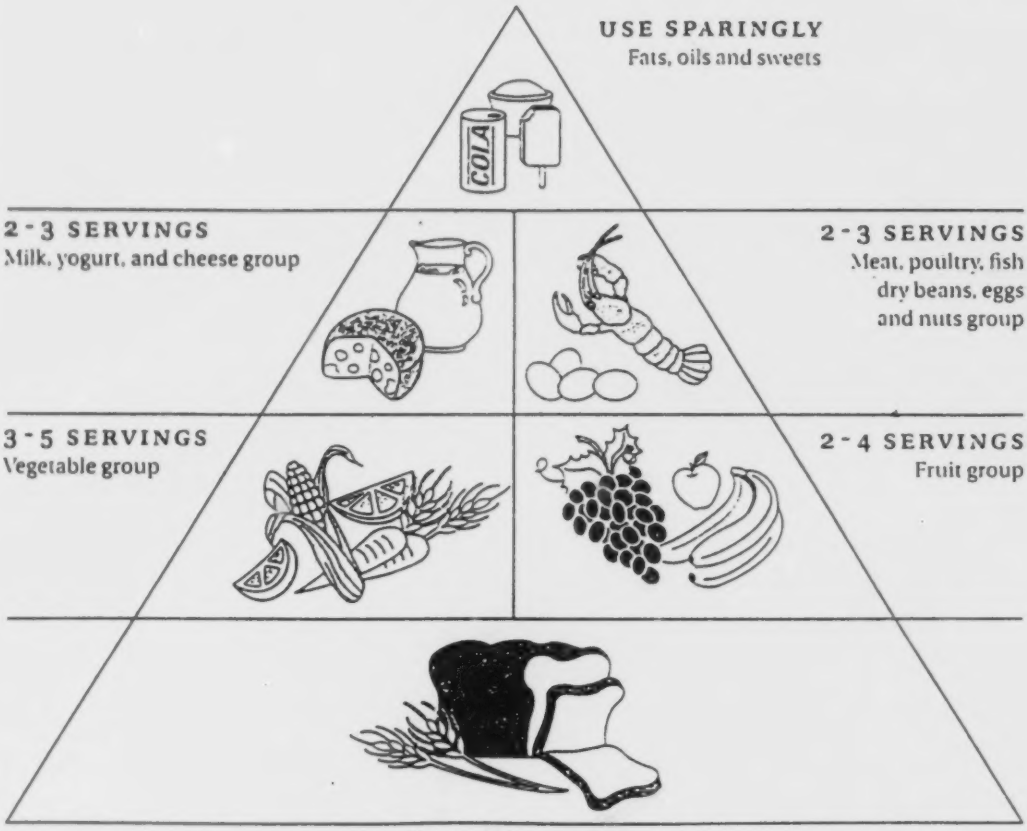
E veryone has the right to a standard of living adequate for the health and well being of themselves and of their family, according to the Universal Declaration of Human Rights.

R ead on to learn why hunger persists and what we can do to help stop it

Hunger is a child with shrivelled limbs and a swollen belly. It is the grief of parents, or a person gone blind for lack of Vitamin A. A single example of hunger is one too many. But in 1992, the United Nations reported that by the most conservative estimate, more than 786 million people are permanently hungry. They don't get enough calories to make a normal life possible and their number is increasing. When famine reaches dramatic proportions, we occasionally view on television the faces of hunger in refugee camps, shantytowns, or crowded city streets. But for the most part, hunger is invisible. Relatively few victims have shrivelled limbs or beg from tourists. Instead they suffer for years in quite obscurity. Their bones and often their minds function at half pace. They get sick too often and die too soon. When death arrives, it seldom comes as an undisguised case of starvation. Usually it takes the more merciful form of measles or diarrhea or some other ordinary disease.

Worksheet 2: <u>U.S. Reorganizes Nutrition Advice</u>

US Reorganizes Nutrition Advice



In April of 1992, the United Sates Department of Agriculture adopted a pyramid that divides foods into five groups displayed as its primary educational device. The Food Guide Pyramid will replace the venerable four food groups, which have been used to teach nutrition in schools since the 1950s. Its publication will affect the way children learn about nutrition for years to come. A copy of the food Guide Pyramid is available at no charge from the United States Deparment of Agriculture, Washington, DC 20250.

Activity Three: What is Hunger? What is Health?

Worksheet 3: What is Hunger? What is Health?

Have you ever seen a giant french fry hanging out at the local burger stand or a chocolate malt running from a soda fountain? "We are what we eat" may not be literally true, but our health and well-being will certainly suffer if our diets do not provide us with essential nutrients.

Nutrition is a process. We obtain and use nutrients from the food we eat for the maintenance of our bodily functions, for the growth and repair of tissues, and for reproduction. The nutrients our bodies need are divided into four groups: proteins, carbohydrates, fats, and vitamins and minerals. These nutrients act in concert with each other. Lack of any one of them affects how our bodies use the others and jeopardizes our health. Our nutritional needs can be met by following the suggested food recommendations on the Daily Food Guide.

Some nutritional experts consider protein to be the most important nutrient. Proteins are made from complex arrangements of amino acids. They are an essential building block of all living cells and account for half of the dry matter of an adult. The average adult needs about 55-65 grams of protein a day. On a global scale, protein deficiencies are the most prevalent and the most difficult to overcome.

Traditionally, North American diets have depended heavily on beef, fowl, and fish as protein sources. However, in recent decades, U.S. diet habits have changed considerably. Inflation, and a growing awareness of global food problems have prompted a decline in U.S. beef consumption. As a result, people are exploring the vegetable kingdom - beans, peas, lentils, whole grains and nut - as a source of proteins.

Carbohydrates (starches and sugars) provide the energy needed to carry out our daily tasks. Sources are grains, vegetables, fruits, and sugars. The primary sources of carbohydrates vary in diets around the world. Rice is the major source in Asia; wheat in Europe; potatoes are important in Poland, Scandinavia, and the USSR; and maize is the primary source for Central and South America. In the United States, use of cereals, breads, and potatoes has decreased over the last century, while consumption of the less efficient carbohydrate sources-sugars and sweets has increased. A daily supply of carbohydrates helps utilize proteins. Carbohydrate deficiencies will cause the body to convert protein to glucose in order to satisfy our overriding need for energy.

Fats serve as a long-term source of energy and are stored in the body until needed. Major fat sources include butter, margarine, lard, oils, meat fats, cream, and milk. Fatty tissue helps insulate and protect our vital body organs. Too much fat intake, however, is a common cause of obesity which puts an unnecessary strain on the heart and other organs. Obesity is one of the major nutritional hazards facing North Americans today.

Finally, vitamins and minerals are required for specific body functions and for bone and tooth formation. For example, both vitamin K and calcium are essential for blood-clotting, while calcium also helps build strong bones and teeth.

Defining Hunger

Hunger is not easily defined. It takes many forms and has many causes. For many of us, hunger is no more than a slight stomach twinge, quickly silenced with a snack. But for others hunger is a constant problem which plagues day-to-day existence. The hungry need no definition to know that they are indeed hungry.

There are many types of hunger. Starvation is death from a lack of food. If we do not receive the minimum levels of food required for sustenance, our bodies respond by devouring their own tissues. The bodies of starvation victims literally consume themselves, burning up fats, muscles, and tissues for fuel.

Chronic undernutrition results when a person's calorie and protein intake is insufficient over an extended period of time. This form of hunger is more subtle and more wide-spread than starvation. Its effects upon the physical development of children are profound. Undernourished people cannot think clearly or work efficiently. They lack energy and are more susceptible to disease.

Malnutrition is a third type of hunger, caused by an unbalanced diet or a lack of specific nutrients. Malnourished people can be overweight and will not necessarily feel hungry though their health is far from adequate. Often, the malnourished will substitute excess starches and fats for other essential nutrients found in foods they are too poor to buy. In other cases, people simply don't know enough about good nutrition. Malnutrition is a problem for hundreds of millions throughout the world, including many in the United States.

What does hunger mean? In the short run, it means that daily life is a constant, often torturous struggle of survival. It means that hundreds of millions have no chance of fulfilling their human potential or of living healthy and happy lives. In the long run, it means the creation of a physical and intellectual deadweight-the very opposite of what is needed to build a vital and prosperous society.

Hunger is a global problem. Understanding it demands some knowledge of basic global statistics such as population distribution, life expectancy, and other common measures of the quality of life. The following exercise begin to explore the magnitude of the hunger problem.

Charting Personal Diet Habits

How does your diet compare with the recommended guidelines for optimal health? Are you getting enough or too much of the four essential nutrients? The following exercise will help you answer these questions.

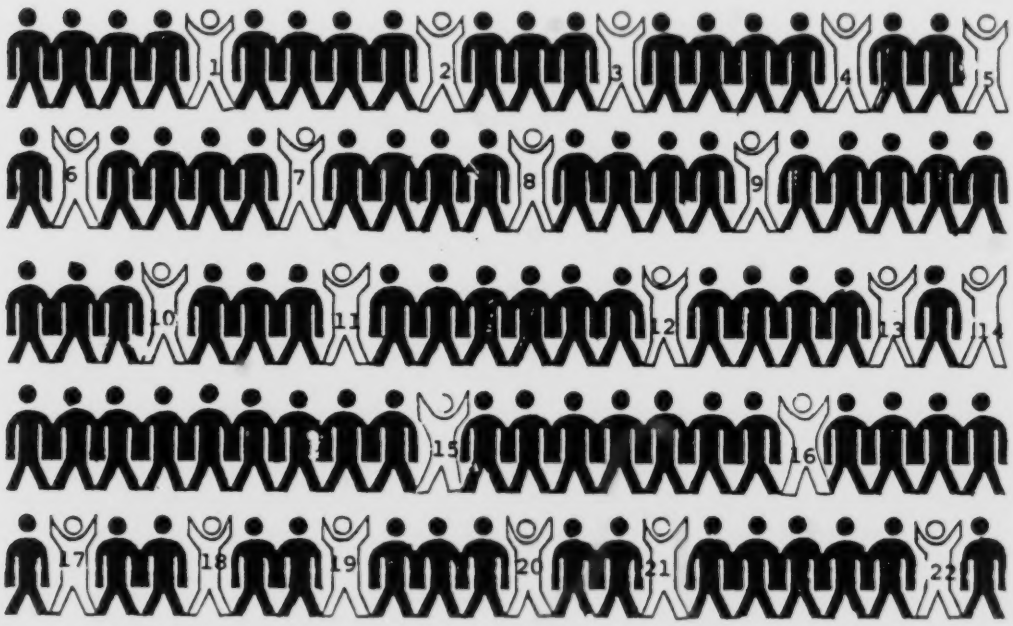
Make a chart showing the seven days of the week. Record all the food you eat each day. Be honest and include all the between-meal snacks you eat. At the end of the week, circle the day that seems the most nutritionally sound. Make an X on the day that seems the least healthy. Now analyze your diet on these two days by filling in the blanks on the "Daily Food Guide" chart. What was the difference in your intake of the four basic food groups between your best and worst days? What food groups did you over/under eat on your best day? On your worst? How could you change your diet to make it more balance? How can you help yourself to follow your diet recommendations?

CHARTING PERSONAL EATING HABITS

DAILY FOOD GUIDE	*No. of Servings*	*What You Eat*
Meat Group: 2-3 servings 1 serving= 2-3 oz lean beef, pork, poultry, fish; 2 eggs; 4 tbsp peanut butter		
Milk Group: 2-3 servings 1 serving= 8 oz cup		
Vegetable Group: 3-5 servings 1 serving= 1/2 cup serving		
Fruit Group: 2-4 servings 1 serving= 1 piece of fruit		
Bread, Cereal, Rice, Pasta: 6-11 servings 1 serving= 1 slice of bread, 1 oz cereal, 1/2 cup noodles, rice or spaghetti		

ACTIVITY THREE: WHAT IS HUNGER? WHAT IS HEALTH?

GLOBAL VILLAGE DATA SHEET: If there were 100 people in the world, 22 would be undernourished.



If there were 100 people in the world....

... 6 could expect to live to age 74
... 29 would not live past the age of 50

... 55 would live in countries with a per capita of less than 600 U.S. dollars
... 37 would live in urban areas.
... 11 would live in Africa.
... 58 would live in Asia.

...11 would be severely malnourished.
...8 would live in Eastern Europe and the Former Soviet Union.
...8 would live in Latin America.
...6 would live in Northern America.
...1 would live in Oceania.
...8 would live in Western Europe.
...1 would die from starvation.

Have you ever felt crowded? Have you ever felt that there were just too many people on a train, a bus, or in a department store on Christmas Eve? The world has many people and, barring a global catastrophe, their numbers will continue to grow. The 1993 estimate of world populations was 5,506,000,000, or 5.5 billion. That's a lot of people. How are all these people distributed throughout the one-quarter of the earth that is land? How many are hungry?

To answer these questions, we will begin by "shrinking" the world. Suppose we take our 4.5 billion people and represent them by a global village of 100 people. How many people would each person in our global village represent?

By using 100 as our base of would population, we can get a better idea of relative population distribution throughout the world. It is easier for most of us to compare two digit numbers than nine digit numbers! Study the Global Village Data Sheet and fill in the blanks.

If my class were a global village....

___would be undernourished.
___would be severely malnourished.
___could expect to live to age 74.

___Would live in countries with a per capita GNP of less than 600 U.S. dollars.

___would live in urban areas.
___would live in Africa.
___would live in Northern America.
___would live in Asia.
___would live to age 50.

Activity Three: What is Hunger? What is Health?

Worksheet 4: The Geography of Hunger:

Study the map, **"People and Calories"** and answer the following questions.

1. Name at least three kinds of information that the map gives. Name at least two kinds of information that the map doesn't give.

2. What are some of the maps advantages? Its disadvantages?

3. In which regions of the world do people have an average caloric intake that is at least 10% above adequate? In which regions are caloric intakes below adequate?

4. Name at least four countries whose "population size" is larger than "geographic size." Of these four countries, which are "well-fed," "adequately fed," or "inadequately fed" according to the average caloric intakes given on the map?

5. Name at least five countries or continents whose "geographic size" is large than "population size." Of these regions, which ar "well-fed," "adequately fed," or inadequately fed?"

6. Pick one country with an average caloric intake at least 10% above adequate, and one country with an average caloric intake that is below adequate. Research data on GNP, life expectancy, birth and infant mortality rates, literacy, and other quality of life indicators for these two countries. What are the major exports, imports, and industries? Do the countries have a colonial history? If so, when did they become independent?

Activity Four: Digging to the Roots of Hunger

Performance Objectives: Students Will Be Able To:

- describe and explain the relationships among various causes of hunger.

- identify points of agreement and/or of contention among various viewpoints.

- assess the issues involved in seeking the roots of hunger

Teacher Background

(In this lesson the students will examine some of the causes of hunger. The students will be exposed to different views about what causes hunger. They will begin to appreciate the complexity and controversy surrounding food and hunger issues.)

Procedure:

▸ Place on Chalkboard: **POVERTY <----> HUNGER**

- The arrow points both ways! Do you agree/disagree? Explain.

▸ Distribute **Worksheet 1: <u>The Causes of Hunger</u>**

- According to the reading, what are the five major factors given as the causes of hunger?
- Which do you feel are the most significant?
- What are some other political, economic, social, scientific/technological, and educational reasons for hunger?
- Why do some countries ignore the issue of hunger?
- How would redistribution of wealth & power affect the problem of hunger and poverty?
- How would a redistribution of wealth and power affect us?
- How are the causes described here interrelated?

▸ Distribute **Worksheet 2: <u>Populations are Growing Rapidly</u>**

- When the students have finished, have them summarize the main points. (It would be useful to have them outline the main arguments on the chalkboard).

- On what points do the authors agree?

- On what points do they disagree?

- How do you account for the differences?

- Are they based on fact or on interpretation?
  Discuss the importance of critically evaluating what we read.

- What kind of information would you need to verify the readings?

SUMMARY/APPLICATION:

▸ Divide the class into five groups.

- Assign each group one of the causes described in the reading, "The Cause of Hunger." Each group should meet to prepare arguments on why their cause is the most important.

- A class debate could be organized with one person from each group as debater.

- Each group should develop a plan to alleviate their "cause of hunger."

Intercom 102 (1982)
Written by Steve West

ACTIVITY FOUR: DIGGING TO THE ROOTS OF HUNGER

Worksheet 1: The Causes of Hunger

The causes of hunger are like a global jigsaw puzzle. Various factors interact and overlap to produce the human suffering that results when people lack proper nourishment. Because of this interaction and overlap, there is no single cause or single solution to the problem of hunger.

If we attempted to identify and classify these various interacting factors, we might divide them into the following groups: 1. political, 2. economic, 3. social, 4. scientific/technological, and 5. educational. Let us briefly examine each of these groups.

▸ POLITICAL:

Many people feel that political forces are the main cause of hunger, and undernutrition. For example, on a global level there are few institutions established whose goal is to bring about an end to world hunger. Those which do exist lack sufficient power or money for the task at hand. No clear international priority has been established to end hunger nor has any long range planning been done at the international level. A world food bank to maintain reserves of grain has been under discussion by world leaders for years, yet no action has been taken to implement such a program.

Problems exist on a national level as well. Many countries do not place high priority on agricultural development. Other priorities such as military or industrial development are more important than ending hunger. Some countries do not even face the fact that many of their people are undernourished or starving. Even on the local level few politicians recognize the need to end hunger. One reason why hunger and poverty have not been a priority is that the poor and hungry have little or not political voice.

Sometimes governments do decide to take action. Often, however, bad decisions are made. Occasionally, too much is done. One example is over-shipments of food to help the needy. Such an over-shipment of wheat or corn can flood a countries market for that product. The price of the product in turn would decline given that there would be such an over abundance. This in turn would decrease the incomes of farmers growing the product and they might be forced to make very difficult decisions including perhaps selling their land. Usually, however, governments do too little.

Some countries have taken effective actions. It is inspiring to know that since the end of World War II, 35 nations have eliminated hunger as a major problem within their borders. These successes were accomplished under various political systems and in all parts of the world. Each situation was unique. The only common strand was the commitment of each government to eliminate hunger.

▸ ECONOMIC:

Poverty and hunger are intimately and tragically inter-twined. In many parts of the world poverty prevents individuals and families from having land on which to grow their own food. It prevents them from buying equipment to improve the productivity of any land they might own. It prevents people from buying food to feed themselves. The debilitating effects of hunger and poverty deprive people of the ability to find the work which would allow them to earn the money they need to improve their lives. This vicious circle of hunger and poverty encompasses hundreds of millions of human beings.

International and local financial decisions regarding trade, credit, investment, and other monetary policies may have a life or death effect on the poor and the hungry. Inability to obtain credit can prevent farmers from improving their land or families from rising out from the grip of poverty.

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• SOCIAL:

Different cultures have different attitudes that affect the problem of hunger. Sometimes deep-rooted beliefs appear to hinder attempts to eradicate hunger. For example, in some parts of the world people believe that meat should not be eaten even though meat is readily available as a source of food. In other places, such as the United States, meat is an important food source. Four-fifths of the grain produced in the U.S. is fed to beef cattle to provide this meat. Yet it takes up to ten pounds of grain to produce one pound of meat protein. If only 10% of all the grain that is fed to animals were redistributed as a food source for human consumption, hunger in the world could be eliminated.

Another important social aspect concerns population. Birth control is a hotly debated issue. Strong emotional and personal beliefs are involved. Most people believe that high birth rates are a cause of hunger. It is interesting to note that in the 35 countries which have brought hunger under control since World War II, all have lower birth rates. This might indicate that the high incidence of hunger may cause high birth rates rather than the other way around.

• SCIENTIFIC/TECHNOLOGICAL:

Although we tend to think of science and technology as providing solutions to the hunger problem, they can also be part of the cause. It is true that science and technology have increased our production capacity, but producing more food will not guarantee that those who need it will get it. In fact, increased productivity may even make small peasant farmers worse off. All too often it is only the wealthy land owners who can afford the expensive farm tools, fertilizers, seeds, and irrigation systems which allow them to increase their productivity dramatically. The increased yields of the large farms result in lower market prices; and lower proves could spell disaster for the small farmers who cannot produce more crops to offset the lower price their crops now get at the market.

• EDUCATIONAL:

Lack of education is also a cause of hunger. Sometimes the foods needed for a balanced diet are available, but people buy other things because their consumer choices are not guided by a sound understanding of nutritional needs. Knowing the many different ways to make a balanced diet is particularly important for the poor, whose choices are sometimes severely limited by what they can afford. There are other ways that a lack of education contributes to hunger. For example, farmers may have the resources necessary to increase their productivity, yet lack the knowledge which would enable them to use the resources most effectively.

One of the greatest obstacles to solving the hunger problem is that not enough people know about the extent or severity of global hunger. Of those that do, many have only a superficial understanding of its causes and consequences. Some people know about the hunger problem but dismiss it as one with no solutions. Very few indeed understand the relationship between hunger and other development issues. Any very few realize that the hunger problem is one which we can solve.

Exploring the Third World
Written by Del Franz

Activity Four: Digging to the Roots of Hunger

Worksheet 2: Populations are Growing Rapidly

The combined population of the less developed countries is three billion, compared with one billion in the developed countries. In addition, the populations of less developed countries are growing more than twice as fast as those of developed countries.

There are two reasons why the populations of developing countries are growing so rapidly. First, people are living longer because they are healthier than they used to be. Since the Second World War, modern medicines have been widely used, and public health services have improved. As a result, many diseases that were common in the developing countries - such as malaria and smallpox - are no longer the killers they once were. The second reason why populations are growing rapidly is that people in the developing countries still have large families. Couples once had to have many babies to be sure that some survived. More babies survive now, but couples are still having many babies.

An important aspect of population growth in the developing countries is that the size of urban populations is soaring. Ten of millions of people have moved from rural areas to towns and cities. It is estimated that eighteen cities in developing countries will have populations of more than 10 million in by the year 2000. Examples are Cairo in Egypt, Jakarta in Indonesia; Seoul in Korea; Manila in the Philippines; Sao Paulo and Rio de Janeiro in Brazil, and Bombay, Calcutta and Madras in India. Mexico City may have more than 30 million inhabitants by the year 2000.

Rapid population growth makes it difficult to improve living conditions in the developing countries. More people will need more food, which already is in short supply. More people will also need more houses, more jobs, more schools, and more hospitals. There are too few of these things now. But if populations continue to grow rapidly in the developing countries, people will have even fewer of these things in the future. That is why the rate of population growth must be slowed down if living conditions are to improve.

Recent studies show that population growth is indeed beginning to slow down. But even if this trend continues, the world's population will rise to more than 6 billion by 2000 and to 10 or 12 billion by 2100. A century from now, there may be three times as many people as there are today. Almost all of this growth will be in the developing countries.

ACTIVITY FIVE: HELPING TO END HUNGER

PERFORMANCE OBJECTIVES: Students Will Be Able To:

- identify the role they can play in learning about the food and hunger issue
- undertake a project directed at taking action vs. hunger.
- evaluate the degree to which they can help to end hunger

TEACHER BACKGROUND:

One of the difficulties in dealing with a seemingly overwhelming problem like hunger is helping students recognize that their individual actions can be effective in solving the problem. The student material contains three lists of activities that can be used to stimulate continued involvement and open up other creative responses to the issue of hunger. The first list contains activities that can help students learn more about the food and hunger issue. The second list contains activities that are directed at taking action about the problem of hunger. The third list contains activities that extend involvement into the community. These lists are not meant to be exhaustive but rather a good beginning. The issue of hunger is one that should be considered on a continuing basis. These activities can be used as individual or group projects independent of a formal study of food and hunger.

PROCEDURE:

Teacher will develop 2 semantic maps: **Hunger - Food**

- Teacher places the word **HUNGER** on the chalkboard.
  - What do you think that word means?
- Teacher places the word **FOOD** on the chalkboard.
  - What do you think that word means?
  - Are these words related? How?
  - Do these words interact? How?
- Distribute **Worksheet 1: <u>Learning more about Food and Hunger</u>**
  - Divide class into dyads or triads and assign each one activity to learn more about food & hunger.

Allow students time to debrief. List responses on chalkboard. Students should

comment and make additions/deletions.

- When it comes to taking action people often say they
  (a) don't have time
  (b) "can't"
  (c) they couldn't make a difference anyway & many other excuses.

Distribute **Worksheet 2: Taking Action**

In your dyads/triads, prioritize the actions as you would proceed.
Discuss your decisions with the class.

SUMMARY/ APPLICATION

- You have been hired to write a book about hunger.

  - In your group, develop six chapter headings & three sub-chapters for each chapter.

The class will create a chart consolidating all the ideas.

Intercom 102 - 1982
Written by Fred Czarra, Mary Soley, Jane Simpson

Activity Five: Helping to End Hunger

Worksheet 1: An Activity to Learn More About Food and Hunger

1. Imagine you have an allowance of $5.00 per week to spend on food. Decide how you would budget that money and eat balanced meals. Plan a daily menu and share it with the class.

2. Pretend you are visiting your local supermarket to find out what items you could not buy with food stamps. Find out why food stamps cannot be used to purchase these things.

3. List as many factors as you can think of that cause people to be fat. Locate evidence for each of theses factors.

4. Construct a graph using the following data to show the differences in population growth between developed and developing nations.

YEARS	DEVELOPED	DEVELOPING
1750	1/4 billion	2/3 billion
1850	1/3 billion	9/10 billion
1950	7/8 billion	1 3/4 billion
1975	1 1/4 billion	2 9/10 billion
1993	1 1/5 billion	4 1/3 billion
2025	1 1/3 billion	7 1/10 billion

What do you think causes the differences in the statistics? Include statistics for male/female and young/old populations, mortality rates, Gross National Product, and literacy rates. Construct graphs to show this information. What conclusions can you make from your findings? Does this new information give you any new perspectives?

5. What is the future of hunger? Design several "What would happen if" statements such as: "What would happen if climatic conditions changed and annual rainfall decreased throughout the United States east of the Rocky Mountains?" Discuss these statements in class.

6. How healthy is our food? Select five breakfast cereals and compare the amount of carbohydrates, protein, and fat. Chart the results and choose the most nutritious.

7. Draw a chart or make a poster of what are considered the ten worst foods. Do the same for ten healthy foods.

8. Some experts say that meat on the table will be a thing of the past. Imagine that day has come. We no longer eat meat. Because of this, all the fast food restaurants we know have disappeared. Instead, we have fast food restaurants with a vegetarian image. Think up new names for these restaurants - Carrot King? Kentucky Fried Beet? Add new items to the menus such as spinach shakes, grilled zucchini sandwiches, and beet burgers.

9. Is there a hunger problem in the world? Explain. Is there a hunger problem in the Unites States? Explain. Do adults differ in their views about the United States' role in the world? How do their opinions differ from your classmates's views?

10. Food makers spend billions of dollars each year for advertising. The major thrusts of the ads appeal to what is for fun, amusement, or for sex appeal - not necessarily what is healthy for you. Cereals, snacks, specialty foods, and soft drinks are pushed the hardest. Choose a food that is nutritionally sound (fruit, vegetable, or dairy product) and design an ad or write a jingle. You may use techniques similar to those used by advertisers for "junk" foods.

11. Using a dummy newspaper front page and format, create headlines, story by-lines, and a cartoon focusing on world hunger news reports. Include special interviews, editorials, charts, cartoons, and feature news stories.

12. Hold a debate to present opposing views about several important food related topics. Questions or themes that could be used include: Should the United States provide food aid to poorer nations? What should be done to feed the world's people? Should foreign aid, including food aid, be tied to U.S. interests? Do richer nations take advantage of poorer ones? What does food have to do with world peace and cooperation? Develop an outline.

13. Suppose that the issue which can cause World War III are food, land, and people. If this is true, then how might we work to avoid that conflict? Suggest some ideas for a world cooperation agreement to avoid that war.

14. Prepare an agenda for a "world food conference". What are the views and positions of developed, developing, and oil-rich nations? Try to present a view of the current world food situation, define existing problems, offer alternative solutions or actions, and try to arrive at a basic world food plan and a means of implementing it. Your goals are to prevent human starvation, avoid war tensions, and achieve worldwide cooperation.

ACTIVITY FIVE: HELPING TO END HUNGER

Worksheet 2: Taking Action to Help End Hunger

1. Plant and tend your own vegetable garden. Keep a record of how much your garden produces. Decide how you could improve your yield and follow through on it.

2. Keep track of the foods you throw away each day. What could these have been used for? Think of ways that you can cut down on the amount of food that is wasted and thrown away.

3. Organize a cafeteria garbage monitoring project. Monitor the amounts of food that are thrown away in the cafeteria each day and tabulate the results. Make posters to put up in the cafeteria to remind students not to waste food.

4. Organize a food and hunger exhibit in the school. This exhibit should provide basic information about the food and hunger issue. It might include posters, graphs, and charts, research reports, slide shows, etc.

5. Help your family cook meals from recipes out of the book Diet for a Small Planet by Frances Moore Lappe (order from Food First 145 9th Street San Francisco, CA 94103 (415) 864-8555).

6. Research and then write a cookbook of meals that don't require meat but that provide the same amounts of protein. For each recipe, include the amount of protein that the meal provides. This could be a class project after which the cookbook is copied and distributed to other students in the school.

7. Choose one idea you have found or had yourself during this study of hunger. Write a letter to the editor of your local newspaper describing the idea.

8. Write a letter to your Congressional Representative or Senator about your feelings on the food and hunger problem. Include your ideas of how to help solve the problem.

9. Make a list of books concerned with the issue of food and hunger that can be found in the school or local library. Ask the librarian for help in selecting these books. Pass out the list to their students, friends, and relatives. Read at least one of the books yourself.

10. Organize a Read-a-thon for world hunger. Students will find sponsors who will pledge money for each book read in a four-week period. The money raised can then be sent to an agency such as UNICEF or CARE.

Beyond the Schools

1. Invite a former Peace Corps or American Field Service exchange student to speak to your group about the diet of the people in the country he/she lived in.

2. Hold a potluck supper or bake sale. Encourage people to bring foods using whole grains, fresh fruits and vegetables, nuts, etc. The supper could be planned around a completely vegetarian menu. Proceeds from the supper or sale could be given to UNICEF or other food relief organizations.

3. Have a feast or famine banquet that will dramatize the difference between the world's richer and poorer countries. Advertise the event and get reservations in advance. Prepare a meal of rice and bean for 2/3 of the people. For the other 1/3, prepare a full course meal of meat, potatoes, vegetables, dessert, coffee or tea. After paying admission, each participant is given a ticket (coded by number or color) to indicate which meal he/she will be served. For added effect, have the "privileged" 1/3 sit at attractively set tables and the other 2/3 at plain tables or on the floor. Provision should be made to offer a full course meal to those receiving only beans and rice after the initial banquet is over.

RESOURCES

Dow, Ruth M., *Live & Let Live: A Simulation Game to Explore Hunger Issues and Answers.* Charleston. IL: Dow, Ruth M., 1990.

This simulation game allows players to explore the issue of hunger and reveals the interrelation of decisions made by nations in an interdependent world. Players join into teams of two or three and choose to represent a country from Asia, Africa, Latin America, or the U.S./Canada. While moving tokens around the board according to the roll of a die, teams are confronted with either a "chance" or a "choice" and must draw the appropriate card. "Chances" consist of events over which players have no control. "Choice" require team members to choose between two options and are accompanied by consequences. Team members must discuss their choice aloud from the stand-point of the country which they represent. For secondary students or older $5. Contact: Ruth M. Dow, 1701 Ninth, Charleston IL 61920

Hlynsky, Karen et. al. *World Hunger: Awareness, Affinity, Action.* Providence, RI: World Hunger Program Brown University, 1991.

This unit attempts to introduce eighth graders to the issue of world hunger and to prepare them for World Food Day, observed annually on October 16 in more than 140 countries. The unit contains three lesson plans on hunger and its relation to famine, poverty, and malnutrition. The lessons focus on promoting awareness of, and action around these issues on the individual, household, and regional levels. Within each lesson are activities that may be taught in Social Studies, English, Science, and Math courses. The lessons can be used individually or in a cooperative effort among teachers of these subjects. Lessons provide goals and objectives, readings, discussion questions, map activities, and exercises relating to the course. The resource includes background readings for teachers, a glossary, and audio-visual listing, organizations and other important contacts, as well as bibliography. 42 pp. Contact the World Hunger Program at Brown University for cost information. World Hunger Program, Box 1831, Brown University, Providence, RI 02912 (401) 863-2700.

Howard, Tracy Apple with Sage Howard. *Kids Ending Hunger: What Can we Do?* Kansas City, MO: Andrews and McMeel, 1992.

This manual strives to encourage kids to educate others about global hunger and presents way in which they can take action. The resource begins with an explanation of what hunger has to do with the environment and saving the earth and continues with an explanation of hunger. This introduction is illustrated with kids engaging in dialogue. The book then provides stories about the lives of children living in Northern and Southern countries, a series of facts about hunger, and "informative art". Child survival and listings of books, teaching materials, and organizations involved in hunger are present in the resource section. Another section suggests fifty ways that kids can help end hunger. These activities are for the home and classroom. They range from giving talks and public service announcements to creating hunger artwork and arranging hunger "banquets". ISBN: 0-8362-7000-2. 224 pp. $8.95. Contact: Kids Ending Hunger. P.O. Box 419150, Kansas City, MO 64141

Kostant, Steven, Executive Producer. *Ethiopia - After the Famine (EarthScope Series).* Washington, DC: Global View Productions, 1991.

As a series of instructional videos, Earthscope strives to stimulate discussion among secondary-school students about the dilemmas of environmental decision-making. Each video begins with a role-play simulation in which viewpoints from various players are presented. The narrator then asks, "What would you do?" A documentary film follows which highlights relevant terms and their definitions and helps to answer the narrator's questions. The video also presents a story-telling piece; environmental

animation; "take action" tips from students; and public service announcements from around the world. Ethiopia: After the Famine is one in the video series. It examines the human costs of neglecting the environment and begins with the role-play of the President and three Ministers of a fictitious country devastated by droughts and famine who must decide between short-term needs and long-term strategies. After the narrator asks the viewers, "What would you do?", they are presented with a film that highlights a family's struggle with famine in Ethiopia in the 1980s. 52 min. Cost: $50 each; $250 (6 tapes); $500 (set). Contact: Global View Productions, Inc. 2901 Connecticut Ave., NW, Washington, DC 20008, (202) 667-5968.

Nutrition Education Resource Project. ***Earth Friends: The Whole Story of Food (Teacher's Guide).*** **New York, NY: Teacher's College, Columbia University, 1992.**

The Earth Friends: The Whole Story of Food teacher's guide is packed with activities that teach elementary school students the connections between agriculture, food supply, environment, food choice and health. The activities which range from games, cooking and music, to group discussions and field trips to the supermarket, are applicable to various disciplines. The purpose of these activities is to let children discover ways of leading healthy lives while making "earth friendly" food choices. The activities include each phase of the food system: growing, transporting, processing, packaging, buying, cooking, eating and discarding uneaten food. Some activities may be used in upper elementary grades. 122 pp. $19.95. Contact: Earth Friends, Box 188, Teacher College, Columbia University, 525 West 120th Street, New York, NY 10027.

Whit, Bill and Yvonne Lockwood, eds. ***Teaching Food and Society: A Collection of Syllabi and Instructional Materials.*** **Grand Rapids, MI: Association for the Study of Food and Society, Aquinas College, 1990.**

The growing popular and scholarly interest in food in culture and society spurred the compilation of this directory. The first section contains course syllabi from courses in anthropology, catering studies, folklore and folklife, food science, geography, nutrition, performance studies, political science, social work, sociology, and world hunger. these syllabi ar presented by scholars from the U.S. who attempt to link food, hunger, nutrition, society and culture. An annotated bibliography in the second section summarizes key works that pertain to the study of food and culture/society. 126 pp. $12. Contact: Association for the Study of Food and Society, Sociology Department, Aquinas College, Grand Rapids, MI 49506-1799.

Avery, Dennis T. ***Global Food Progress.*** **Indianapolis, IN: Center for Global Food Issues, Hudson Institute, 1991.**

In Global Food Progress, the author challenges the Malthusian view that population growth is overwhelming the world's resources, and that starvation and environmental disaster are the inevitable results. The author argues that expanding the world's food supply depends less on natural resources than on human knowledge and initiative through biotechnology. The book's introduction suggests that positive progress has been made toward achieving food security the world over. The first chapter, "Hunger," proposes that there is less hunger in the world today than commonly thought, due primarily to an increase in the world's poultry and livestock. Chapter 2, "Food Production Technology," details the discoveries in biotechnology. Chapter 3, "Food Safety" argues that pesticides today are necessary to get attractive fruits and vegetables and are subjects to effective regulation. Chapter 4, "World Agriculture Trade," looks at the growing world demand for farm resources and how it will be best met. It also criticizes government subsidies to their farmers. The final chapter "Farming and the Environment" points to the advances of the "Green Revolution" as an argument for the power of science and technology to meet the future world demand for food. ISBN: 1-55813-039-X. 268 pp. $18. Contact: Hudson Institute P.O. Box 26-919 Indianapolis, IN 46226 (317) 545-1000.

BEST COPY AVAILABLE

Barrachlough, Solon L. *An End to Hunger? The Social Origins of Food Strategies.* London, England: Zed Books, 1991.

The author explores would hunger issues through the complex interactions between socio-economic systems and ecosystems, stressing the systemic nature of the problem. The book warns against "facile generalizations" of the problem and provides case studies of country, regional, and local experiences with hunger. According to the author, the process of attaining food security implies profound changes in social relations, production structures and technologies. The first part examines the local impact of modernization processes. The second part analyzes the dynamics and social origins of food strategies, including food production policies, agrarian reform, popular participation, and political will. In the third part, constraints and opportunities to food security are highlighted, as well as collective self-reliance among and within Southern Countries, a transition from dependency to independence, and policy dilemmas are discussed. ISBN: 0-86232-993-0. 284 pp. $19.95. Contact: Humanities Press International, 165 First Avenue, Atlantic Highland, NJ 07716, (908) 872-1441, Fax (908) 872-0717.

Beckmann, David and Richard A. Hoehn. *Transforming the Politics of Hunger.* Washington, DC: Bread for the world Institute on Hunger and Development, 1992.

Transforming the Politics of Hunger is the second of Occasional Papers by Bread for the World. The paper, based on a Christian perspective, suggests how U.S. citizens can end hunger at various levels of involvement ranging from the family to public policy. The paper asserts that agencies which serve the poor could be more successful by participating in the formulation of public policy. Although the primary focus is on the eradication of hunger in the U.S., the authors show how changes in policy can contribute to the elimination of hunger on a global scale. 68 pp. $5. Contact: Bread for the World Institute, 802 Rhode Island Ave, NE Washington , DC 20018, (202) 269-0200

Foster, Phillips. *The World Food Problem: Tackling the Causes of Undernutrition in the Third World.* Boulder, CO: Lynne Rienner Publishers, 1992.

This book presents the problem of hunger and malnutrition in Southern countries and claims that undernutrition can be reduced with appropriate policy changes. The author attempts to view the problem with an interdisciplinary approach, covering subjects such as nutrition, economics, demography, biology, history, public policy, and philosophy. The first of three parts attempts to furnish answers to questions such as: What is malnutrition? What are its effects? How do we measure it? Who is malnourished? Part two highlights the causes of undernutrition: lack of purchasing power; inadequate distribution of income, wealth, and resources; population growth; and poor health. In the third part, the author first relates how failure to account for conflicting world views of the hunger problem can erode efforts to alleviate undernutrition and ends with a set of recommendations on how to achieve policy reform. Throughout the book, the author utilizes theoretical frameworks, graphs, and charts to support his arguments. ISBN: 0-7449-0073-5. 367 pp. $22. Contact: Lynne Rienner Publishers, 1800 30th Street, Suite 314, Boulder, CO 80301, (303) 444-6684, Fax (303) 444-0824.

Gussow, Joan Dye. *Chicken Little, Tomato Sauce & Agriculture: Who Will Produce Tomorrow's Food?* New York, NY: The Bootstrap Press, 1991.

Using the analogy of the science fiction classic Chicken Little, "a legless, wingless, headless, featherless" technological creature which served to feed people, this book raises concerns over this biotechnological approach to food production which may become a reality in North America. The author demonstrates the relationship between food systems and the environment, human health, and world hunger. She outlines the arguments for both biotechnological and sustainable food systems and asserts that the latter is the only alternative that will not yield environmental, economic and human disaster. The book shows how the state of confusion among U.S. consumers over the content of available food products relates to present systems of food production and the environment. The author

concludes that consumers can choose healthy and sustainable food system if they are educated about the process of food production and pricing. ISBN: 0-942850-32-7. 143 pp. $12.50 Contact: The bootstrap Press, 777 United Nations Plaza, New York, NY 10017, (212) 953-6920.

Kutzner, Patricia L. *World Hunger: A Reference Handbook (Contemporary World Issues Series).* Santa Barbara, CA: ABC-CLIO. Inc., 1991.

According to this book, the root cause of hunger relates to distribution of resources and the solution involves the active participation of the rural poor. The author traces the chronology of the world hunger problem starting from 1940 and suggests the following areas as targets of change to alleviate the problem: focus on women's roles, farmers, the tailoring of technology to the circumstances of the users, and food aid. The book attempts to deliver three messages: world hunger can be ended and therefore it must be ended; the goal, now within reach for the first time in history, will require complex and difficult choices at many levels of human action and organization; and to succeed at all, we must see the obstacles and options clearly. It integrates a wide range of perspectives in including economics, sociology, religion, nutrition, and anthropology. ISBN: 0-87436-558-9 359 pp. $39.50. Contact ABC-CLIO, Inc., 130 Cremona Drive, Santa Barbara, CA 93117, (800) 422-2546

ORGANIZATIONS

Bread for the World Institute on Food and Hunger/Bread for the World Educational Fund, 802 Rhode Island Avenue, NE, Washington, DC 20018, (202) 269-0200.

Bread for the World (BFW) is membership-based Christian citizen's organization that approaches hunger as a public policy issue. Bread for the World members work in their Congressional districts to affect their legislators on hunger issues as part of the BFW Citizen Action Network. BFW hunger issues cover U.S. social and foreign policies, disarmament and peace, agricultural development, food policy, and hunger from a Christian perspective. Local groups organize around workshops, study, and action. Activities include: leadership training programs and seminars to train community activists in educational outreach, training programs and curricula for university level students on hunger and public policy issues, a graduate course curriculum on world hunger for seminaries, the development of a seven-session action-oriented study kit for religious groups on domestic poverty issues, a resource center offering research and educational materials on hunger and development issues, a catalogue system, and an in-house publications service providing reviews and recommendations.

The Hunger Project, 1388 Sutter Street, San Francisco,CA 94109, (415) 928-8700, Fax (415) 928-8799

The Hunger Project was established in 1977 to generate a world wide grassroots commitment to ending hunger by increasing awareness in the U.S. of the root causes of hunger. In 1989, a two-year national campaign was launched to introduce the video, "Famine and Chronic Persistent Hunger: A Life and Death Distinction," with the accompanying teaching materials to 4 million high school students and 1500 service club chapters in the United States. The campaign was designed to highlight the distinction between famine and hunger in Southern countries. Youth Ending Hunger is another development education program in which one hundred youths from twenty countries and six continents are encouraged to participate in an annual bicycle tour across the United States, in an effort to heighten awareness of hunger issues.

Institute for Food and Development Policy, 145 Ninth Street, San Francisco, CA 94103, (415)864-8555, Fax (415) 864-3909

The Institute for Food and Development Policy, also known as Food First, is an independent, non-profit research and education center dedicated to "investigating the root causes of hunger in a world

of plenty." Food First produced educational materials aimed at a variety of U.S. audiences. The Institute develops and distributes instructional packages, including curricula, to introduce young people and adults to issues related to world hunger, as well as practical tools and materials for activists working to eliminate the root causes of hunger. To stimulate discussion on policy reform and implementation strategies, the Institute also produces print and non-print materials aimed at policymakers and the general public. In addition, the Institute works to disseminate information about local and national development efforts that have succeeded in meeting basic food needs.

Interfaith Hunger Appeal, 475 Riverside Drive, Room 635, New York, NY 10115, (212) 870-2035, Fax (212) 870-2040

Founded in 1978, Interfaith Hunger Appeal (IHA) seeks to foster global education by building and sustaining enthusiasm, information and identity among teachers of undergraduate development courses. Through the help of a U.S.A.I.D. development education grant, IHA funds a three-year project, co-sponsored by Notre Dame and Duke University, the Foreign Policy Association and the Carnegie Council on Ethics in International Affairs, to bring development education to the college audience. Created in 1989, the project supports college professors in establishing a curriculum on hunger and poverty in the developing world. IHA offers summer institutes for college professors to promote communication and the exchange of curriculum ideas across disciplines. IHA also produces a curriculum development guide as well as a bimonthly newsletter with key resources for teachers and students.

U.S. National Committee for World Food Day, 1001 22nd Street, NW, Washington, DC 20437, (202) 653-2404, Fax (202) 653-5760

The U.S. National Committee for World Food Day seeks to increase awareness, understanding and effective year-round action on farm, food, health, and hunger issues in the U.S. and throughout the world. Beginning in 1981, the national office has served as a service, resource, and networking center for member groups, local organizers and the general public. World Food Day's membership in the U.S. includes 450 NGOs. The committee also serves the media regarding World Food Day's, local, national and international activities. Programs and projects planned by local coalitions and committees are determined at the community level and range from a ceremonial recognition of World Food Day to educational and action efforts aimed at primary, secondary, and higher education students, teachers, religious groups, and youth. World Food Day is often used as an annual meeting for assessment and planning. In addition, a national teleconference held on university campuses is planned for the day. The national office provides print and non-print materials including curriculum packages on ways to observe World Food Day as well as briefing papers and fact sheets on the issues.

World Hunger Education Service, P.O. Box 29056, Washington, DC 20017, (202) 298-9503.

The World Hunger Education Service mission is to "help leaders help others help themselves." Founded by a small group of Washington, D.C. residents in 1976, the organization is intended to be a national information and networking center providing concerned U.S. citizens with the facts, educational tools, and resources to increase their effectiveness as agents of change in the struggle to end world hunger. World Hunger Education Service's development education program focuses on the production of educational materials such as "Hunger Notes" and "Who's Involved with Hunger: An Organization Guide for Education and Advocacy"

ACTIVITY SIX: SHARED UNDERSTANDING

PERFORMANCE OBJECTIVES: STUDENTS WILL BE ABLE TO:

- identify one belief & value of a group

- explain how groups share understandings

- evaluate how shared understandings evolve from procedures, beliefs, & values

PROCEDURE:

▸ What understandings are common to classroom life?

- What is considered appropriate behavior when you want to speak during a discussion?
- What do you do when they want to ask a question during an exam?
- What kinds of behaviors are unacceptable for the classroom?
- What kinds of punishments do you expect for not conducting yourself within the expected classroom norms?
- Would someone unfamiliar with classroom "culture" share these understandings?

Teacher will compile a list.

▸ Distribute **Worksheet 1: <u>Shared Understandings</u>.**
Allow students time to complete exercise.

- It is important to distinguish between procedures, beliefs, and values. Place the classroom understandings you thought of earlier into these three categories.

▸ When we analyze the aspects of a society labeled as procedures, beliefs, or values, we are developing a definition of culture.

- What does this statement mean?
- Do you agree/disagree?
- What examples can you give?

(Note to Teachers: Procedures include laws, customs, manners, and the monetary system; beliefs include religions and widely accepted scientific explanations for natural phenomenon; and values include a culture's art, music, and dance.)

Summary/Application

- Let's create our own culture.

  - What kinds of beliefs and values would it have?
  - What kinds of procedures would be followed?
  - In your culture, describe in writing how people learn about and satisfy their survival needs.

Enrichment Exercises:

1. Have students research the procedures, beliefs, and values of different cultures. There are many variations to this theme. You might want to limit the research to one facet of a culture such a beliefs about magic, creation mythologies, birth rites, death rites, etc. How are they different? How are they alike?

2. Review the three elements of culture discussed in the lesson (procedure, beliefs, and values). Ask students which of the following constitutes a culture: women, Chinese Americans, news reporters, Haitians, U.S. citizens, vegetarians, the Moral Majority, football players. Answers will vary and sociologists themselves would probably not agree upon whether each of these groups represents a culture. The discussion however will enlighten students and force them to think about what characterizes a culture and how strong cultural bonds can be. (You should also issue a warning about stereotyping - which is not the same as looking for distinct cultural traits shared by member of a group.)

Intercom 92/93
Written by Alice Ann Cleveland, Jane Craven, Maryanne Danfel

ACTIVITY SIX: SHARED UNDERSTANDING

Worksheet 1: Shared Understanding

All of us are "naturals" when it comes to some of our survival needs. Breathing, for example, is something we do not have to learn. Unless we are very ill, we inhale and exhale automatically with the help of our nervous system. You also did not have to be taught how to eliminate your body's waste materials. Any of you with a baby brother or sister knows that this function is automatic!

But natural abilities can only take you so far. If you went into space you would have to learn how to survive when oxygen supplies are limited or when atmospheric pressure is reduced. For health reasons you also learned, at a very early age, how to control the time, place, and manner in which you eliminate your body's waste products.

Learning is the key to satisfying most of our survival needs. For example, we are taught how to get food, prepare foods, and serve food. We are also taught when, where, and how food should be eaten. All this learning for a simple activity like eating - fortunately humans have a great capacity to learn!

To a large extent, learning in humans results from the contact we have with the other humans in our families and in our communities. Humans learn not only from schools but from churches, jobs, and social groups as well. What sorts of things do humans learn as members of groups? We learn about the procedures, beliefs, and values which are common to that group. We can say that these procedures, beliefs, and values are "understandings" which the group shares.

UNDERSTANDING ABOUT PROCEDURES

There are understandings that deal with the proper steps to follow when doing something. For example, at the beginning of every telephone book is a page that describes how to make long distance calls. The book outlines the steps to follow when you want to dial directly, make an operator assisted call, phone someone in another country, and so on. Telephone users must learn these procedures in order to communicate with each other. The telephone system could not operate successfully if the telephone users and the telephone company did not share understandings about the proper way to make phone calls.

UNDERSTANDING ABOUT BELIEFS

These are understandings about accepted "truths" - truths about life and the environment. For example, the Kung Bushmen of South Africa live in a very harsh environment. During the hot season they must search for roots that will yield water. The Kung believe that the "bi" root is the best source of water in the hot season. Much time is spent by adults teaching their children to identify the vine that leads to be "bi" root. Without this understanding passed on from generation to generation, the Kung would have trouble surviving the hot, dry summer.

UNDERSTANDING ABOUT VALUES

These understandings are a type of truth too. Groups share understandings about what is important, beautiful, or good and what is not. For example, Bedouins (Arabs who are desert nomads) feel that it is very important to be hospitable to guests, even if you are very poor. In the desert it is difficult for an individual family to survive. Protection comes from being a member of a large group. Valuing hospitality helps people to survive by making everybody, even guests, part of a group.

SHARING UNDERSTANDINGS

As members of groups humans learn particular procedures, beliefs, and values. Learning the proper way to do things; learning truths about life and the environment; and learning what the group feels is important teaches group members how to satisfy their needs.

As humans learn from each other, they begin to share certain understandings. Some understandings are common only to small groups. Your family, for example, or your class might share understandings that are not common to other groups. These understandings are shared only by those who use them and communicate them. Other understandings are shared by nearly everyone in the United States. For example, most U.S. citizens know that motor vehicles are driven on the right-hand side of the road. This understanding is a law in the United States.

How do people learn a law such as "drive on the right-hand side of the road?" Most people do not have to do legal research to figure this out! Students often take driver education courses where they learn about this as well as other laws which help us to operate motor vehicles safely. People also learn a lot about safe driving habits by watching other people, and by instructions from friends and family on how to handle a car. As pedestrians, most people learned about this law long before they thought about driving. They learned about it from observation and from learning to cross the street.

Other understandings are widespread but are not part of this country's law. For example, many people wear black to funerals because black is traditionally a color of mourning. In the 17th, 18th and 19th centuries, a widow in the Unites States was expected to wear black for an extended period of time as a symbol of her grief. If she should wear bright colors before her period of mourning was up (which could last anywhere from six months to two years), her behavior was considered improper and disrespectful to the memory of her late husband. How do we learn about what colors are considered appropriate for different occasions?

People living in other parts of the world do not always share the same understandings that we in the United States share. In Hong Kong and other parts of East Asia, for example, mourners at a funeral dress in white. Not everyone in our own country thinks that black is the only appropriate color for funerals. Even the legal requirement to drive on the right-hand side of the road is not shared everywhere. In England and Australia, for example, the law states that motor vehicles are required to drive on the left-hand side of the road, this is how the Australians and the English learn to drive.

REVIEW

1. Humans must be taught how to survive.
2. Much of human learning occurs in group settings.
3. Humans learn certain understandings about procedures, beliefs, and values in group settings.
4. Learning these understandings teaches humans how to survive.
5. As they learn these understandings from other group members, the understandings come to be shared among group members.
6. Different groups share different understandings. This last point is an especially important one to think about when you are studying other people and their way of life. Different groups share different understandings about procedures, beliefs, and values. It stands to reason then that groups will teach their members different way to satisfy needs.

EXERCISE:

1. Listed below are ten statements. Each describes an understanding that the members of a particular group of people share. Examine the statements carefully. List those statements which you think describe an understanding shared by most people in the United States.

yes	no	
__	__	a. People wear bright colors for festive occasions.
__	__	b. It is important to be liked and respected.
__	__	c. People can kill others by witchcraft.
__	__	d. During a conversation, men hold each other's arms with their hands.
__	__	e. You should not trespass on other people's property.
__	__	f. The third step in making *natek* is to pound the inside of the trunk until it is mushy.
__	__	g. The "bi" root is an important source of water during the hot season.
__	__	h. People eighteen and over can vote.
__	__	i. When dialing direct long-distance, dial "1," then the area code, and then the number.
__	__	j. Being hospitable to guests is very important, no matter how poor you are.

2. Which of the understandings on your list are written into the laws of the United States? How do people learn about these laws?

3. How do people learn about the shared understandings on your list that are not law? Review briefly the important points of this reading.

ACTIVITY SEVEN:
HOW CAN WE BEST UNDERSTAND LIFE IN DEVELOPING COUNTRIES?

PERFORMANCE OBJECTIVES: Students will be able to:

- cite some of the problems of life in developing countries.

- compare and contrast how life in different nations is the same or different.

- assess the degree to which life in developing countries creates problems.

PROCEDURE:

▸ Those of us who live in the Developed World need to better understand the problems of people living in the Developing World.

- For Homework: Distribute **Worksheet I:**
Two Case Studies: Problems of Living in the Developing World.

When students enter class, quickly form informal groups to compare homework. Allow students approximately eight minutes to prepare for lesson.

- In your reading for homework you read about an urban area and a rural area.
- What common problems to both urban and rural areas face?
- What problems do both areas share?
- What problems are different?
- How do these readings give us some insight into the problems.

▸ Let us now take these problems and be specific. There are four readings (case studies) which will give us more insights. Distribute **Worksheet 2** to groups.

- Divide class into cooperative learning groups. Each group will examine the story of one case study. Teacher will debrief with organizer.

Problems of Living in the Developing World

Name	*Location*	*Occupation*	*Education*	*Problems*
Minata				
Manuel				
Mara				
Keko				

SUMMARY/APPLICATION:

Select one of the people we read about. Write a short letter to that person comparing your life experiences and problems with those of your pen-pal. Students will share letters.

ACTIVITY SEVEN: HOW CAN WE BEST UNDERSTAND LIFE IN DEVELOPING COUNTRIES?

Worksheet 1: Two Case Studies - Problems of Living in the Developing World

Teacher Background:

In this lesson, the students will begin to understand what the life of the poor is like in developing countries. They will also begin to understand more fully the life of the poor in the United States. The two readings will then enable them to relate poverty to the problem of hunger. There are over 120 different countries in the Developing World. Although conditions in all these nations differ, they share many of the same problems. In this lesson you will read about two communities in the Developing World - one rural and one urban.

I. Mexico City, Mexico

"The magnificence, the strange and marvelous things of this great city are so remarkable as not to be believed," Hernan Cortes wrote in 1520 when he and his men became the first Europeans to see the great Aztec capital, Tenochtitlan. Today this city is called Mexico City. In many ways, it is still a grand, proud, and beautiful city. But, like other rapidly growing cities of the Developing World, it is a city beset with problems.

Mexico City with 18.1 million inhabitants, is the world's largest city. Like other capital cities of Developing World nations, it is growing rapidly. In 1950, it had only two million people; by the year 2000, the Mexican government projects the city will have a population of 36 million. Mexico City's rapid growth rate is the result of both: (1) a birth rate that is much higher than the death rate, and (2) a migration that brings 400,000 people from the Mexican countryside each year.

Mexico City is a city plagued by widespread poverty. Many of its people live in the sprawling slums that surround the city. Twenty-six percent of the families in the city live in one-room dwellings, many of which have been put together from pieces of corrugated steel, concrete, and cardboard, or whatever other loose building materials the family can find. More than 2 million residents have no running water in their homes. Three million residents have no sewage facilities. Half of the city has no garbage collection. The government does not have the resources necessary to provide the services the city's rapidly growing population needs.

Yet, Mexico City is not some vast urban junk pile. It is also a city of broad boulevards and gleaming office buildings, of sparkling fountains and noble churches. Nor is everyone in the city poor. The city has a small minority of rich people and a growing middle class.

But for most people of the city, finding work to support themselves and their families is difficult. While only 12% of the city workers are officially classified as unemployed, another 40% are underemployed. Most "underemployed" people work long hours, but not at regular wage-earning jobs. They are the people who shine shoes, pick through garbage, sell Chiclets in the street, do laundry for the wealthy, or in other ways have had to create their own employment.

To an outsider, the plight of Mexico City's poor people may seem hopeless. However, the whole wave of migration into Mexico City is really a tidal wave of hope. The chance for a better job, a better education, and a better life still draws hopeful people into the city from the cities, towns, and villages of Mexico.

In fact, in spite of its problems, life for most people in Mexico City is better than life in the countryside. One reason is a growing industrial economy. Sixty percent of the nation's industry is located in Mexico City. So are its best universities, its largest companies, and most of its government offices.

However, for the jobless newcomers to the city, life can be difficult. By some estimates, as many as half the people of the city do not have any access to medical treatment. Children from poor families seldom go beyond grade six because they must work to help support the family. For the lucky ones who find jobs, wages will be only a few dollars a day.

At 7,350 feet above sea level, Mexico City is one of the world's highest cities. It lies at the bottom of a basin surrounded by mountains which rise as high as 18,000 feet. This location, along with industrial growth and traffic congestion, has produced a serious pollution problem. The air of Mexico City has become the most polluted of any city on earth. One doctor estimates that 60 percent of his patients suffer from pollution-related respiratory diseases.

Mexico City's problems are not insurmountable, but most of them require money to solve. Capital (money for investment) is needed to build new factories to create more jobs. Money is also needed for investment in improved housing, medical care, air quality, sewage treatment, etc. However, as a result of falling petroleum prices, the amount of money Mexico earns from selling its products on world markets has dropped.

An even bigger problem for Mexico's economy is its foreign debt of $102 billion, one of the largest of any developing nation. Most of Mexico's earnings from sales of its products on world markets must go to pay interest on its huge foreign debt, rather than paying for improvements at home.

Mexico novelist Carlos Fuentes calls Mexico City a "suffocating city spreading like a creeping blot." But for millions of poor people throughout the country, the city still represents hope for a better life.

Questions:

1. Make a list of challengess Mexico City faces.

2. Which problems on your list are related to another problem you have listed? Identify the relationships between different problems you have listed.

3. How do the problems of Mexico City affect the United States?

II. Tulungatung, The Philippines

Tulungatung is a small community of wooden huts built on stilts. The huts are on stilts to help keep the wood from rotting in the wet, tropical climate. It lies near the city of Zamboanga on the island of Mindanao, one of the largest of the islands that make up the Philippines. Most of the people of Tulungatung are rice farmers.

At first glance, Tulungatung seems far removed from the "modern" world. It has no electricity and the dirt streets turn to mud during the rainy season. However, Izuzu buses on their way to Zamboanga run through Tulungatung with American pop and rock music loudly playing on the driver's Sony cassettes. The latest American-bred "miracle" rice is grown in Tulungatung's fields. Young people, if they have the money, go into Zamboanga on Saturday night to see Clint Eastwood, Sylvester Stallone, or Kung Fu movies.

The people of Tulungatung are Christians, a religion introduced by the Spanish, who controlled the

Philippines for hundreds of years. However, the Spanish never converted all Filipinos to Christianity; most of the people of the island of Mindanao remain Muslims. Fighting periodically flares up between armed bands of Christians and Muslims. The national government of the Philippines is unable to control this fighting, because it lacks resources and authority, the national government (centered in distant Manila on the island of Luzon) can do little to control localized struggles such as this.

The population of the Philippines is growing rapidly. Each year it increases by about 2.5 percent. There isn't enough farmland for the growing rural population. Landless farmers from overpopulated Philippines islands north of Mindanao are moving into Tulungatung. These farmers are taking over land in the hills, which until a few years ago were still covered by tropical rain forest. The hillside land is not well suited for intensive farming and the soil quickly loses its fertility. Slash-and-burn agriculture must be used; fields are burned and cleared, cultivated a few years, and then abandoned until nature can replenish the soil. So, poor farmers, struggling to grow enough food for their families, must constantly be taking over and clearing new land. If too many farmers are struggling to make a living off land such as this, both the tropical rain forest and the productivity of the soil are destroyed.

Farmers in the fertile lowlands are not much better off. They farm small plots of 2 to 15 acres (the average farm size in the United Stats is 431 acres). Few of the farmers of Tulungatung own their own land; thus, they must give a third or fourth of their crop to landlords, who live in nearby cities or towns.

New strains of rice plants have been developed that can greatly increase rice production, thus reducing hunger and poverty among the farmers of Tulungatung. Nearly all the farmers have purchased the new seeds. Rice production is up, but it has not increased as much as was expected. Farmers lack the money necessary to buy the fertilizers and insecticides needed to grow the new strains of rice. Even when they are able to buy these chemicals, the farmers (most of whom are illiterate) are unable to read the instructions and correctly apply the fertilizer or insecticide. As in most nations of the Developing World, the government of the Philippines has little money to spend on education or agricultural services.

Farmers in Tulungatung have an even bigger problem. Like farmers everywhere, they have no control of the prices they will get for their crop. The farmers of Tulungatung found that while their rice production had gone up due to new seeds and modern methods, the production of rice in other areas of the Philippines and in other countries around the globe had also gone up for the same reasons. This meant that there was more rice on the global market; as a result, the price fell. So while they produced more rice, the farmers ended up with only a slightly larger income.

The government of the Philippines would like to help farmers like those of Tulungatung. However, its attention and limited resources are focused on a host of other pressing problems.

Questions

1. Make a list of challenges Tulungatung faces.

2. Which problems on your list are related to another problem you have listed? Identify the relationship between different problem you have listed.

3. How do the problems of Tulungatung affect the United States?

ACTIVITY SEVEN: HOW CAN WE BEST UNDERSTAND LIFE IN DEVELOPING COUNTRIES?

Worksheet 2: Living in the Third World: What Would You Do?

Discuss the situations and try to agree on what course of action the person should take.

I. Minata (Burkina Faso)

Minata lives with her husband and two children in a farming village in Burkina Faso. Here in the Sahel (the vast expanse of land stretching across Africa just south of the Sahara), Minata and her husband raise goats and grow millet, a grain which forms the basis of their diet. Minata's day is long, she carries water, looks after the goats, cares for the children, cooks and cleans, helps her husband in the field, and tries to do some sewing to earn a little cash.

The Sahel is dry - except for a brief rainy season that brings torrential rains. Minata remembers the great drought - three years in a row when the rains never came and over a million people in the Sahel died. The fear that the rains won't come or that they won't last long enough is always with her and the other people of the village.

Even though the rains have returned to normal, the area looks much more like a desert than before. During the great drought, the vegetation which once covered the land either dried up or was eaten by the goats, leaving the land barren. Now when the rains come, there are no roots to hold the water, so no moisture accumulates in the soil to nourish the plants during the dry season. Instead, the water runs off, taking much of the topsoil with it. Crops have been meager, despite normal rainfall. Now, except for the short rainy season when everything turns to mud, the land is brown and like a desert.

Minata knows there won't be enough millet to last the two months until this year's crop is ready for harvest. Women are not allowed to look in the granary to see how much grain their husbands have left, but she knows. She can tell by how her husband acts. A man feels deeply ashamed if he is unable to provide enough mullet for his family. Even though most men in the village are in the same situation, an empty granary dishonors the man whose duty it is to provide grain for his family.

Minata's husband, Bourema, is taking about borrowing a donkey and a cart and going into town. She knows what this means. He will have to spend all of the little cash he has to buy millet; maybe he'll also have to sell three or four of the eight goats they own. Worse yet, prospects for the harvest this year don't look good. They can't go on trying to farm the land when it doesn't even produce enough for their own food requirements.

Minata knows they will have to make a decision. She never wants to end up in a refugee camp. She and her husband would lose all their pride and hope for a better future if they had to leave their land, neighbors, and relatives and live in a camp, dependent on outsiders for food. But she doesn't want to starve either. Maybe her husband can get a job laboring on a plantation in the Ivory Coast, a country that lies to the south of Burkina Faso. But wages are very low and there is only work during certain times of the year. Maybe they could move to the city, but what work could an uneducated farmer like her husband expect to find there? Maybe there's a way they can make their land more productive.

Instructions:

1. On a world map, locate the country where Minata lives.
2. Using complete sentences, describe the problem Minata faces.
3. List the resources Minata has that she can draw on to improve her situation.
4. List the alternatives Minata has to choose from.
5. Try to agree on what Minata should do. Using complete sentences, describe the course of action you think she should take and explain your reasoning.

ACTIVITY SEVEN: HOW CAN WE BEST UNDERSTAND LIFE IN DEVELOPING COUNTRIES?

Worksheet 2: Living in the Third World: What Would You Do?

Discuss the situations and try to agree on what course of action the person should take.

II. Manuel (Mexico)

Manuel, his wife Rosa, and their three young girls live in a one-room brick hut with a tin roof in a small village near Veracruz, Mexico. They have one electric light bulb but no running water, no sewage system, no television, and no refrigerator. Even silverware (expect for a knife and a few spoons) is a luxury they haven't considered buying. However, Manuel doesn't consider himself poor; his family has plenty to eat and there are other persons in the village that have less money than he.

Manuel spends little time helping his father and his brothers work their small plot of land. He's gotten a job as a night watchman at a factory that makes pipe that will be used in developing Mexico's new oilfields. Although his wages are very low, Manuel knows that he is lucky to have a regular source of cash income. Rosa does the housework, carries water, cares for the three girls, grows vegetables, and tends the chickens and pigs.

Manuel has three brothers and three sisters. Most of them have never gone beyond a third grade because their labor was needed to help raise income for the family. Jorge, because he his the youngest of the family, has been able to stay in school and complete the ninth grade. Everyone in the family knows that to really get ahead in the world today, a person needs an education. They would like to see Jorge finish high school and college, become a veterinarian, and then become a source of income for the entire family. To go to high school, Jorge must move to a larger town. Money is needed to pay for his room, food, living expenses, books, and school supplies. Of course, since Manuel has a steady source of income, he knows that he will be expected to provide much of the money for Jorge's education.

Manuel knows that veterinarians make more money than he and his brothers together can hope to make. He knows that as a veterinarian, Jorge would be expected to give much of the money he makes to his poorer family members, especially those who provided the support necessary for him to complete his education. If Jorge becomes a successful veterinarian, Manuel will probably end up getting back much more money than he will have to pay to support Jorge's schooling. However, Manuel wonders if he shouldn't save what little money he can for his own daughters' education, for a medical emergency, for a refrigerator, or to buy meat for his family to eat.

Instructions:

1. On a world map, locate the country and the region of the country in which Manuel lives.
2. Using complete sentences, describe the problem Manuel faces.
3. List the resources Manuel has that he can draw on to improve his situation.
4. List the alternative Manuel has to choose from.
5. Try to agree on what Manuel should do. Using complete sentences, describe the course of action you think he should take and explain your reasoning.

ACTIVITY SEVEN: HOW CAN WE BEST UNDERSTAND LIFE IN DEVELOPING COUNTRIES?

Worksheet 2: Living in the Third World: What Would You Do?

Discuss the situations and try to agree on what course of action the person should take.

III. Mara (Brazil)

Mara lives in a small mountain town about 50 miles from Rio de Janeiro, Brazil. Although she never had much money, Mara always considered herself well-off. She had a good husband and six healthy children.

However, a disease has left her husband disabled and unable to work. In Brazil, as in most of the Developing World, welfare and disability payments to the needy are small or nonexistent. So Mara tries to support the family doing odd jobs. Instead of attending school, the children try to earn a few extra cruzados for the family. But in this small town, there aren't many moneymaking possibilities.

What can Mara and her family do? There's not enough money to provide the food, clothing, and health care the family needs. In situations such a this, boys in the Developing World often leave home at an early age to support themselves, thereby reducing the burden on their parents. In Brazil, there are an estimated ten million children who live in the streets of the cities, shinning shoes, selling trinkets, and looking for odd jobs. Usually these children simply sleep on sidewalks or in parks.

Jose Carlo is 15 and Paulinho is 12. Should they be sent to Rio de Janeiro to live in the streets? Mara doesn't even like to think abut doing that . Ever since her husband got sick, she has devoted herself to holding the family together. However, she knows there may be no alternative but to break up the family now.

Shining shoes and living in the street of Rio they could earn enough money for food and possibly have some left over to help support their family. Since Rio is only four hours away by bus, they could maybe spend Sunday visiting at home. But the life of street children is hard. They have no homes and no families. They can't attend school or get job training. Often they become victims of crime. As they grow older many of these children themselves turn to crime.

Instructions:

1. On a world map, locate the country and the region of the country in which Mara lives.
2. Using complete sentences, describe the problem Mara faces.
3. List the resources Mara has that she can draw on to improve her situation.
4. List the alternatives Mara has to choose from.
5. Try to agree on what Mara should do. Using complete sentences, describe the course of action you think she should take and explain your reasoning.

ACTIVITY SEVEN: HOW CAN WE BEST UNDERSTAND LIFE IN DEVELOPING COUNTRIES?

Worksheet 2: Living in the Third World: What Would You Do?

Discuss the situations and try to agree on what course of action the person should take.

IV. Keko (Tanzania)

Six month ago Keko boarded the bus to Dar es Salaam, the capital and largest city of Tanzania. He didn't tell his parents he was leaving because they would not have agreed. They were counting on his help for the yearly cleaning of the fields. He had never been to Dar es Salaam before, but he had heard much about it from his older brother who was already living there. Keko wanted more out of life than being a poor farmer struggling to survive.

When Keko arrived, he went to his brother's address. His brother lived in a room in the back of the house where he worked as a servant. That first evening Keko and his brother went for a walk in the city while the family he worked for were at the movies. Keko had never seen anything like Dar es Salaam before. There were street lights, traffic jams, movie theaters, and crowds of people. He wished he had left his village long ago.

With his brother's help, Keko found a job as a servant. However, he soon found out that the monthly wage of $17.00 plus room and board was not enough to get by on in the city. Keko also began to realize that people like him had little chance of advancing. With his lack of an education there was not much hope of getting a better job or a better salary. There were always more uneducated people coming from the rural areas willing to accept any work, no matter how low the wages were.

Keko would like to go to school to get a high school education and some type of job training. But he has only a few hours free a day and only one day off a week. He also lacks money for books and school supplies.

Keko still wants more than to be a farmer struggling to survive in a village of the interior. But in the city, although he has a job and works hard, he can barely make ends meet. There seems to be no future for him in the city. Sometimes Keko just about decides to go back to his native village, but then he thinks about how his father will probably make fun of him and treat him as a immature kid who would have been much better of if he had listened to his parents in the first place.

Instructions:

1. On a world map, locate the country and the city in which Keko.
2. Using complete sentences, describe the problem Keko faces.
3. List the resources Keko has that he can draw on to improve his situation.
4. List the alternatives Keko has to choose from.
5. Try to agree on what Keko should do. Using complete sentences, describe the course of action you think he should take and explain your reasoning.

ACTIVITY EIGHT: PERCEPTION AND THE ENVIRONMENT

PERFORMANCE OBJECTIVES: Students will be able to:

- define the survival needs for food
- compare and contrast basic food needs in two societies
- demonstrate how this family traditionally handle and prepares food

TEACHER BACKGROUND:

In the lesson

eet their basic need for food. Student are asked to cite differences and similarities in the two stories. They are asked to make comparisons with their own family traditions of handling and preparing food.

PROCEDURE:

▸ Distribute Worksheet 1: A Tale of Two Families

- Tell students that the reading discusses how two different groups of people handle the survival need for food. Briefly introduce the families from the stories. Make sure that students can locate Guatemala and Ghana on a world map before they begin to read. Tell students that the stories describe typical situations in both areas.

- After students have read the materials, review the questions with them. Discuss the conclusions they made about the differences between the three situations. It is important for students to realize that Ghana and Guatemala are not the only place where people's diets are sometime lacking in essential nutrients.

▸ Malnutrition is a global problem caused by a host of complex factors. Even in the U.S. where food is plentiful, nutritional problems persist.

- What's the difference between starvation and malnourishment?
- What are some of the characteristics of malnutrition?

Some people in the United States are malnourished because their diets lack essential proteins or vitamins. It many cases, malnourished people are fat because they eat too many carbohydrates and fats to compensate for their o dietary deficiencies. You might also want to point out that the primary dietary problem in the United States is overeating!

- Malnutrition and hunger are problems in the United States also.

  Distribute Worksheet 2: Hunger in the U.S.

  - What are the causes of the woman's poverty?
  - How does she cope with her situation?
  - How does her life compare with the people in the other reading?

Summary/Application

- Have students conduct a food profile of their community.

  - Do you think there is a food problem in your community? (Check unemployment figures, social workers, welfare statistics, etc.).

  - If so, who is attempting to address the nutritional needs of the hungry (churches, senior citizen programs, community groups, individuals)?

  - How can food waste be avoided and the food put to better use?

- Ask the students to suppose that their family has only $300 per month to live on.

  - Have them prepare a budget for how that money would be spent, considering the basic need of food and shelter. They should consider the changes they would have to make in their lives to adjust to a low income.

Activity Eight: Perception and the Environment

Worksheet 1: A Tale of Two Families

All humans have survival needs. Our stomachs often remind us of the need to consume food. To satisfy this need, people in all parts of the world eat. But surrounding the simple act of eating is a whole ritual of obtaining, preparing, serving, and eating food. People in all parts of the world have different ways of handling food to meet the same basic survival need of eating.

The following stories are about food in two different societies. As you read, think about how the situations described are alike and how they are different.

I. Another Day in Victor's Life

Victor Alvarez is twelve years old. He lives and works in San Miguel Petapa, a village about 20 kilometers (12 miles) from Guatemala City, the capital of Guatemala.

Victor's Day Begins

Every morning at six Victor gets up, trying not to wake his two brothers with whom he shares one of the three beds in the little one room house where the seven members of the Alvarez family live. After a breakfast of tortillas - the corn pancakes served at every meal in most Guatemalan homes - Victor joins the other workers in the cornfield by seven A.M.

Victor's Mother Begins her Chores

Victor's mother makes a lot of tortillas every day. It is hard work. She prepares them not only for the family, but also for sale. The price is only one centavo each so she earns a small amount of money, as long as she finds customers. Her kitchen measures approximately one square meter (a little more than three square feet). and her stove is an open fire on top of a stone table. Outside, there is a concrete sink where she cleans the dishes after every meal and does all the washing. Victor's mother enjoys having running water and electricity in the house, modern luxuries that most of her neighbors lack. Victor's mother attends to her household chores surrounded by Victor's four sisters and brothers and hundreds of buzzing flies. The girl's, who are sixteen and fourteen, used to go to school, but the family can no longer afford to send them. The boys, eight and six, have not received any kind of education so far. They help their mother with the house work, and sometimes they assist their father, running errands or giving him a hand in the garden.

A Limited Diet

At one o'clock Victor returns from the fields. His yellow T-shirt and blue pants are all dusty and his bare feet are covered with dirt. The women have prepared the luncheon tortillas, which are served with homegrown vegetables from the garden in the back yard. Victor helps his father, who is pulling out big red radishes for the meal. Thanks to this little garden, the Alvarez family can eat fresh vegetables almost all year round. They grow green tomatoes, radishes, carrots, and peas. If there is ever enough of the crop to spare, they sell it at the market.

Meat is a luxury. Victor says that they are lucky to have some kind of meat for dinner once in a while on Sundays. Even the frijoles are now rare on the Alvarez menu. The little black beans, together with the tortillas, have been a staple in the Guatemalan diet for ages. But the price has gone up so drastically (a pound of frijoles that used to cost 8 centavos now costs about 30) that this protein-rich and nutritious food has also become a luxury for many a poor family. "I like the tortillas, but I love bread," days Victor, chewing the last crumbs from his plate. "When I had my birthday in January, we celebrated by having bread for breakfast - that was very nice!"

Not As Healthy As He Looks

Victor is a slim but strong looking boy. Nevertheless, his medical record shows that he suffers from malnutrition, and that he has an intestinal parasite which the doctor has not yet been able to identify. Though the work is hard and the food is scarce, Victor is never heard complaining. This is the only way . of living he knows.

II. Afi Makes the Best Stew

Afi lives in a small village in Ghana. She awakens at dawn each day to bake bread to sell at the local market. Today her husband will sleep late, because he has just finished harvesting his corn corp. The younger of Afi's seven children will go to school; the older boy, to work; and the teenage girls - since they are not learning a trade or continuing in school as some girls are - will stay home to help with the chores. With little money available, most families must spend whatever income they have on the food they cannot grow. A homemaker's day revolves around meals. Over the centuries mealtime has become a traditional time for the family to gather. A person who does not show up for a meal is a cause for concern.

Poor Nutrition

Even with this importance placed on food, poor nutrition is common in Ghana. Not many people have access to information about nutrition and its relationship to good health. Some blame evil spirits or bad deeds for health problems such as apathy, weakness, stunted growth, infections, and kwashiorkor (a nutritional disease of infants caused by protein deficiency and usually associated with a heavy corn diet).

Meals Are Always the Same

Afi's family meals rarely vary. Like most women in the village Afi uses the corn her husband grows in many of the foods she prepares. Breakfast in Afi's house is typically a plain sour porridge made from fermented corn dough with freshly ground hot peppers and perhaps a small piece of fish; dinner is banku, another kind of cooked corn dough, and an oily stew.

Between meals, fresh fruit in season, peanuts, fried yams, and corn or cassava "dough balls" serve as snacks. With money from her bread sales, Afi buys the ingredients for the evening meal, the largest of the day: oil, tomatoes, onions, red peppers, ginger, and a small fish for stew. She may substitute okra for the oil in the stew, but she rarely thinks to buy and add to her stew any of the abundant green kontumerie leaves or "yellow garden eggs" (a variety of eggplant). If she has any money left over, which is not likely, she may buy sugar for the next day's porridge, cocoa drink or candy for the children, or tea and milk for guests.

Mealtime

By custom, the father is served first at mealtime. He eats until satisfied, usually taking the most nutritious parts of the meal - like the meat or fish - and leaving the starchy parts for the rest of the family. Guests and older children, especially boys, are next.

Afi Is a Good Cook

In her village Afi is considered a good housewife. She has given birth to many children, losing only two as infants. And she is a good cook, in fact, she is know for her rich, tasty stews, and her banku is always the right consistency and quality. She provides three filling meals a day for her family and they all go to bed with full stomachs.

Her Children Are Not Well

But Afi's youngest children have swollen bellies. The baby has recurring diarrhea and all the children have big, ugly infections on their legs. To Afi, these discomforts are part of the everyday things one must learn to live with. If anyone were to suggest to her that the meals she prepares are the cause, she would be insulted. Like most other mothers, Afi believes she is doing right by her family. Her choice of food is dictated by customs deeply ingrained.

REVIEW QUESTIONS

Now that you have read the two stories, make some comparisons by answering the following questions on a separate piece of paper.

1. In each story, who prepares the food?
2. Do both families grow all their own food?
3. What kinds of food does each family eat?
4. Do children in both families have health problems related to the food they eat?
5. Like the people described in the stories above, you must consume food in order to survive. Do you satisfy this survival need like Victor or Afi?

   Write a short paragraph describing how your family satisfies its nutritional needs to consume food. Use the following questions as a guide.

   a) Who prepares food?
   b) Where does the food come from (e.g., homegrown, store bought)?
   c) What kinds of foods are eaten?
   d) Is there much variety in the food eaten?
   e) Does anyone suffer from food-related health problems?

Activity Eight: Perception and the Environment

Worksheet 2: Hunger In the U.S.A

Many people forget that hunger and poverty are a problem in the United States as well as in the rest of the world. In our rich, affluent nation there are people whose lives are impoverished and for whom daily existence is a struggle. This reading will give you an idea of what the life of these people is like.

An emaciated woman pulled at the edges of a torn gray sweater, her bony fingers red in the cold. She leaned heavily on the porch railing for support. Her body was still but her large bright blue eyes darted back and forth. Her head turned less quickly, and because she was no thin, the muscles and tendons of her neck stood out. She was waiting for food. As the car eased to the curb below her porch on Weld Hill Street in Boston, the woman began to come down the steps with what seemed like almost frantic gestures. She was at the door of the car as the director of the Ecumenical Social Action Committee's Senior Citizens' lunch program turned off the engine.

"How are you today?" the director asked politely, handing her the packaged lunch and starting to close the car door before the woman could respond.

"I'm very weak," the woman said quickly. The words were clipped, the voice high and nervous, with a Boston Irish accent. Although she spoke well, as a person who was educated, there was fear in her voice and in everything else about her.

She was almost a living skeleton. Her eyes were framed by huge dark circles, but the ashen skin, stretched tightly, still revealed a small, upturned nose and finely shaped lips, which made it clear that she had once been beautiful.

"I need help. Will you come back? You must come back," she pleaded, her voice trembling.

"I'll come back," I said as the car drove off. I went back later that afternoon.

The woman explained to me that once she had done civil service work in City Hall, then had served with the Boston School Committee as a legal secretary.

She lost her job several years ago, and after her unemployment compensation ran out she applied for welfare. They said she could work, and she said she wants to work, but no one will hire her.

"I've had no income and I've paid no rent for many months. My landlord let me stay. He felt sorry for me because I had no money. The Friday before Christmas he gave me ten dollars. For days I'd had nothing but water. I knew I needed food; I tried to go out but I was too weak to walk to the store. I felt as if I were dying. I saw the mailman and told him I thought I was starving. He brought me food and then he made some phone calls and that's when they began delivering these lunches. But I had already lost so much weight that five meals a week are not enough to keep me going.

"I just pray to God I can survive. I keep praying I can have the will to save some of my food so I can divide it up and make it last. It's hard to save because I am so hungry that I want to eat it right away. On Friday, I held over two peas from the lunch. I ate one pea on Saturday morning. Then I got into bed with the taste of food in my mouth and I waited as long as I could. Later on in the day I ate the other pea.

ACTIVITY NINE: IS THERE A WATER CRISIS?

PERFORMANCE OBJECTIVES: Students Will Be Able To:

- show where the world's water supply is located.
- explain the world's water supply.
- assess if there is a water crisis in the world today.

PROCEDURE:

▸ Ask students to make a list of ten ways in which they use water every day. Have them compare lists.

- Have you ever heard about the water crisis?
- What do you think is causing it?
- Discuss their answers with them before distributing the student reading.

▸ Distribute **Worksheet 1: Is there a Water Crisis?**

- Allow students time to complete the reading and review the map of water availability in the year 2000.
- Discuss the "interdependence" of the water crisis.
- What measures can they think of to save water in their own homes? Make a class list.

SUMMARY/APPLICATION:

▸ As a class, plan a water conservation display or brochure for the rest of the school.

- How will you organize this project?
- What information do you need to get?
- Where will you get this information?

▸ Stage a debate or make a bulletin board display on acid rain, a water related issue, or on individual community environment problems such as Mono Lake in California.

(Two resources that you might find helpful are Ann LaBastille's Acid Rain: How Great a Menace?" in *National Geographic*, vol. 160, no. 5, Nov. 1981, p. 652; and Gordon Young's "The Troubled Waters of Mono Lake," in *National Geographic*, vol.160, no.4, Oct. 1981, p. 504.)

Intercom 101
Written by Fred Czarra, Cathryn Long and Jane Simpson

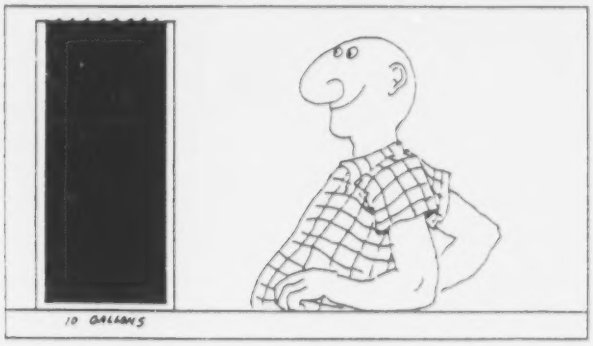
Activity Nine: Is There a Water Crisis?

Worksheet 1: Is There A Water Crisis?

Did you know that you are mostly water? In fact, the human body is around 98 percent water. Water is one of our most vital resources. All living things, themselves mostly made of water, depend on water to survive. Water carries nutrients from the soil into plants which in turn feed animals. Water helps remove and dissolve waste materials. Water is a major factor in world climate. In the atmosphere, water helps protect us from ultraviolet rays.

When you know how important water is, it is disturbing to see the number of recent articles appearing in magazines and newspapers that suggest the world is facing a water crisis. Yet, a glance at a world map seems to indicate that there is plenty of water. After all over 70 percent of the Earth's surface is covered by water!

In fact, there are about 396 billion gallons of water on Earth. And this water supply is fixed. In other words, the total amount of water on Earth can not be increased or decreased. If this water was evenly distributed among the world's people, each man, woman and child would receive 90 billion gallons. That is more water than a person could ever imagine using! So why are all these newspaper and magazine articles talking about a water crisis? Part of the answer is that most of the water cannot be used to satisfy human needs.

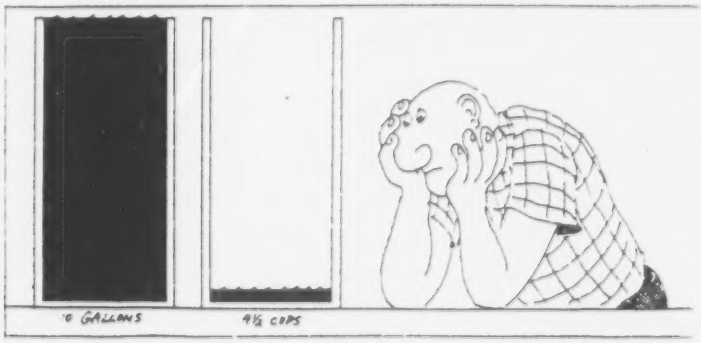


How Much Usable Water Is There?

To understand how much of the world's water can actually be used to meet human needs, imagine a container about the size of a small aquarium filled with 10 gallons of water (38 liters). This 10 gallon container represents all the water on Earth.

The water of the oceans contains large amounts of dissolved solids, mostly salt. This water can be used for transportation. However, it is unfit for drinking, washing, irrigating crops, and industrial purposes. Therefore, water from the oceans is not really useful for satisfying most human needs.

The oceans of the world account for 97.1 percent of all the water on Earth. When this amount is removed from the 10 gallon container, 4 1/2 cups (1.1 liters) of water are left. These 4 1/2 cups represent the total amount of fresh (low salt content) water on this planet.



Even this small fraction of the world's total water supply is really an impressive amount of water - approximately 1.2 trillion cubic feet. That's enough water to fill the Mediterranean Sea 10 times! It sure seems like there is plenty of fresh water!

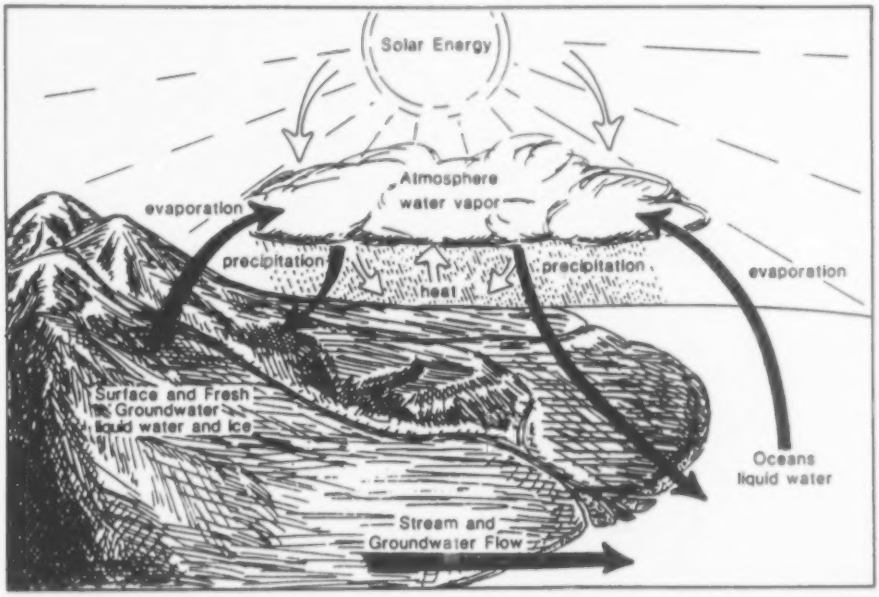
An even more optimistic picture emerges when we realize that this fresh water supply is continually purified and replenished by the water cycle. Like other cycles in nature, the water cycle is powered by energy from the sun.

How does this work? The following figure will help you understand how the world's fresh water supply is constantly being renewed.

Water evaporates into the atmosphere to form water vapor. It evaporates from the oceans, the land, and from the atmosphere itself. It is important to realize that when ocean water evaporates, only the water turns to vapor. The solids (salts) remain behind.

Eventually water vapor in the atmosphere cools and falls as fresh water. Any particle of solid or liquid water that falls from the atmosphere is called precipitation. Precipitation usually takes the form of snow or rain.

Most of this fresh water falls into the ocean. It mixes with the salt water and is lost to the world's fresh water supply.



The Water Cycle

Some rain and snow falls on the Earth's land surfaces as well. Most of the precipitation that falls on the land runs off into streams and lakes. Eventually it runs back into the sea, under the influence of gravity.

Some of the water that falls on land moves down through the soil and rock until it reaches a layer of rock that water cannot move through. water builds up in the area above this layer filling in openings and cracks in the soil and rock. This underground water is called (surprise!) ground water. Gravity causes the ground water to move to lower ground and eventually to the oceans.

In very cold areas (the Arctic and Antarctic regions) the snow that falls from the atmosphere piles up and eventually becomes ice. The weight of ice causes it to push foward into the oceans and eventually, to break off. These floating ice chunks are known as icebergs and have plagued northern seafarers for centuries.

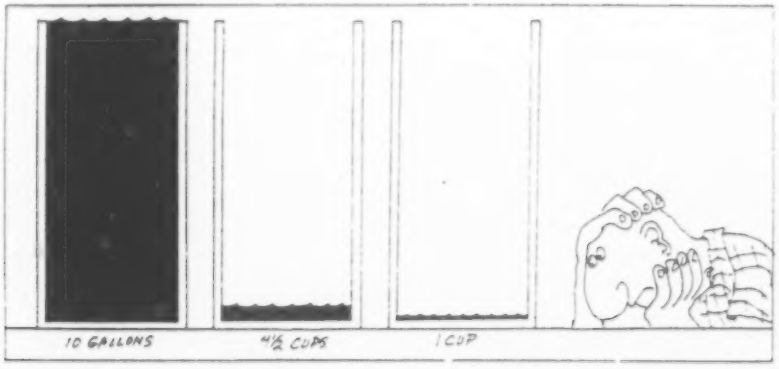
The fresh water that falls on the Earth's land surfaces and evaporates directly into the atmosphere or runs into the oceans, is constantly being renewed. This means that the Earth's total fresh water supply is not simply "4 1/2

cups" that can be used up. It is "4 1/2 cups" that is constantly being replenished!

Up to this point, we have established that most of the water on Earth is salty and unfit for human use. But, we have discovered that "4 1/2 cups" of fresh water is a lot of water. We have also seen that this supply is constantly being renewed. So again we must ask, "why is everyone talking abut a water crisis?!!?"

The problem is that much of the world's fresh water supply really cannot be tapped by humans at the present time. For example, of the "4 1/2 cups" of fresh water on Earth, 3 1/2 cups (0.84 liter) are located in glaciers, ice caps, the soil and in the atmosphere. This water is not directly available for use by humans. So, only one renewable cup (0.24 liter) remains!

If we imagined this "one renewable cup" of fresh water to be evenly distributed among the world's people, each person would receive 160,000 cubic meters a year. This is enough to flood about 38 football fields with 3 feet of water. How does this compare with actual human needs?



Consider the United States, where a lot of water is used by world standards. The average U.S. citizen uses water for drinking, washing the dishes, watering the lawn, and bathing. In addition, the U.S. used water to meet its large industrial needs, to generate electricity, to grow crops, and for waste disposal. All these uses contribute to a high average water-use - about 2700 cubic meters a year for each person. For the world as a whole, water needs can probably be satisfied with 1500 cubic meters a year for each person.

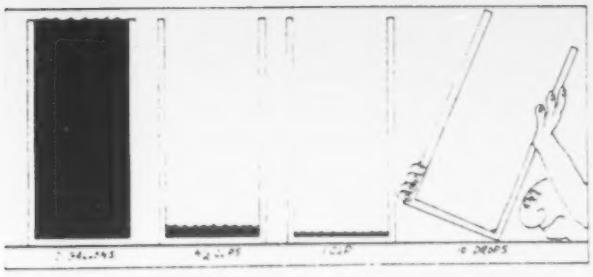
The water situation looks hopeful. The renewable "1 cup" of fresh water provides 160,000 cubic meters a year for each person. Water needs are only 1500 cubic meters a year for each person. So why do we seems to have a water shortage?

Well, we must remove from the 1 cup of fresh water still in the container, the fresh water that is found in remote locations where few humans live. For example, the Amazon River in South America is the largest river in the world. It discharges into the ocean enough fresh water to satisfy the needs of everyone on Earth! In fact, though, almost none of the Amazon's water is used by humans. There are few people living near the Amazon River.

We must also take out the water that is trapped deep in the ground. This water could be tapped by wells. But the cost is too high. Therefore, it is not really available for human use.

Finally, we must remove the polluted water from the container. The remaining usable fresh water supply is about 10 drops. (.001 liter)! This water is found mainly in rivers, lakes, and in the ground, close to the surface. Like all fresh water, it is renewable.

This tiny fraction of the world's water supply is still enough to meet human needs, even if the world's population were several times larger. So why is there a water crisis?



The basic problem is that these "10 drops" of actual usable fresh water are not distributed over the Earth's land surface in the same way as the human population. As a result, many parts of the world face continuous or periodic water problems.

The map below shows how much usable water will be available for each person in the year 2000, by country. If the distribution of people and of water were similar, then the per person availability of water would be about the same everywhere in the world.

Clearly availability differs from place to place. In some countries a lot of water is available per person. In other countries, very little water is available.

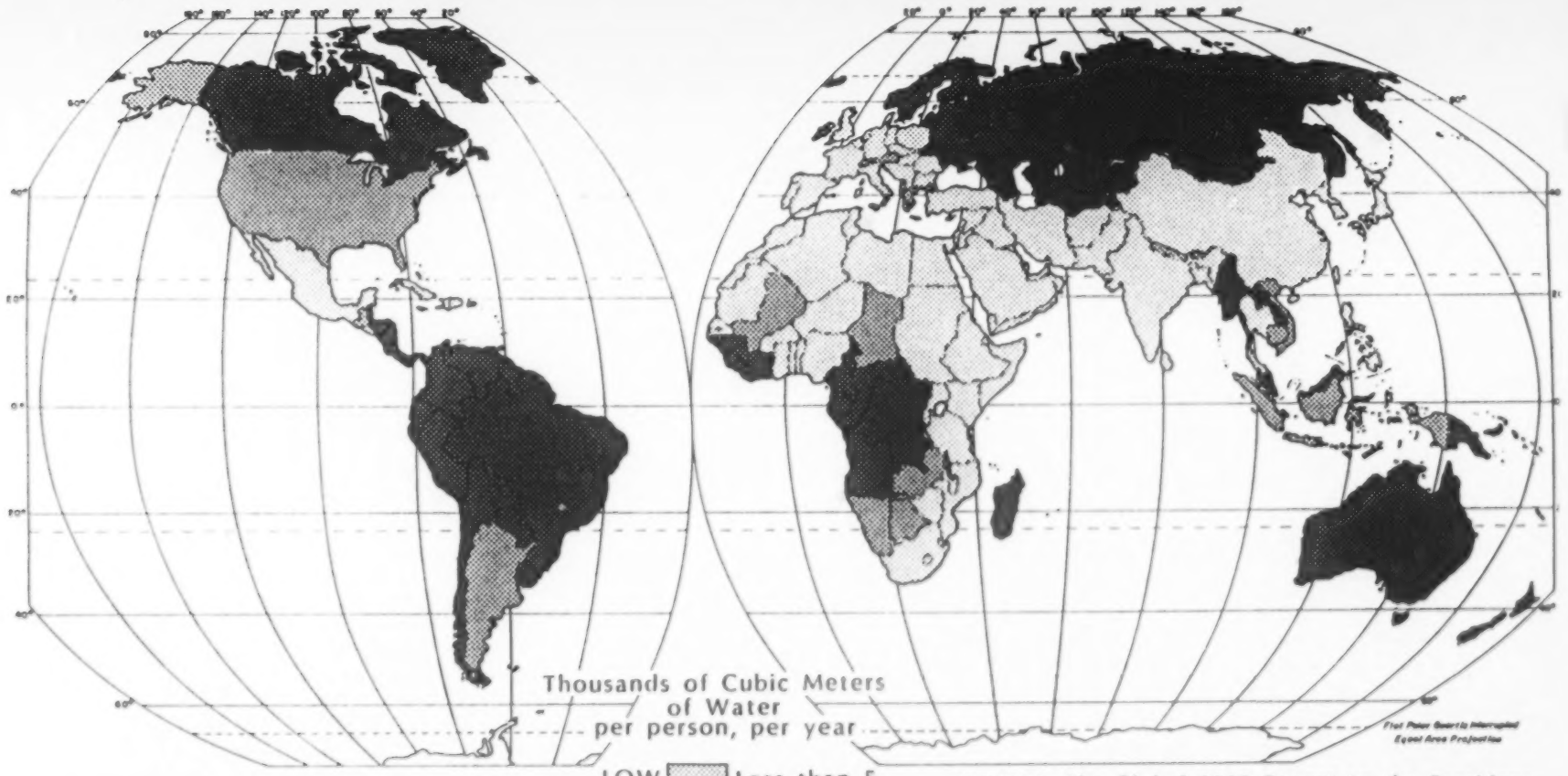
Preview the map. Then discover what it tells you about water shortages by answering the following question: "Which world regions contain countries that will experience low levels of water availability in the year 2000?"

DON'T BE A WATER HOG!

List below are some of the ways we can cut down on our daily use of water. How many of the "Conservation uses" do you practice? What other ways can you conserve water?

Item	Use	Gallons Used	Conservation Used	Gallons Used
Shower	Water running	25	Wet down, soap up, rinse off	4
Brushing teeth	Tap running	10	Wet brush, rinse briefly	1/2
Shaving	Tap running	20	Fill basin	1
Automatic dishwasher	Full cycle	16	Short cycle	7
Washing hands	Tap running	2	Fill basin	1
Toilet flushing	Depending on tank size	5-7	Using tank displacement bottle	4-6
Washing machine	Full cycle, top water level	60	Short cycle, minimal water level	27
Outdoor watering	Per minute	10	Lowest priority - eliminate	0
	Total	**148-150**	**Total**	**44.5-46**

PROJECTED WATER AVAILABILITY, 2000 A.D.



SOURCE: The Global 2000 Report to the President

ACTIVITY TEN: DEVELOPING AN ENERGY POLICY: A DECISION-MAKING SIMULATION

This simulation can be used as a beginning exercise in an examination of the national and global energy problem. It provides the class with a group task and it proves to be an excellent motivator. Students also begin to gather the kind of data they need for an in-depth analysis of humankind's use and misuse of energy. The directions, which can be duplicated for student use, are a sufficient basis for completing the task successfully. They also allow for instructor and student ingenuity.

PERFORMANCE OBJECTIVES: Students will be able to:

- List the types of energy available to humankind.
- Analyze the energy problem and develop plans to take action.
- Evaluate the background, uses, and potential for each major energy alternative.

Instructor's Introduction to the Class

▸ For the next several days, you will be participating in a decision-making simulation based on what many see as the number one problem facing the United States and other nations of the world. You will serve as groups of advisors to the President. In that capacity, you will be required to develop a position paper and defend it through research and debate.

The eight role-playing groups being called on for advice are these:

1. The Department of Energy
2. The Department of Transportation
3. The U.S. Automobile Manufacturers' Association
4. A lobby group representing oil and gas interests
5. A coalition of conservation groups
6. A concerned-citizens group
7. A solar energy lobbying organization
8. A nuclear power lobby

PROCEDURE:

▸ Teacher will read the following general premise to the students:

The world is approaching a new era in energy use. We have passed from the age of

wood burning for energy to coal burning to petroleum burning (oil and gas). The end of the petroleum era is in sight and what combination of alternative energy sources we will use is unclear.

The United States remains heavily dependent on petroleum for energy. We represent 5 percent of the world's population but are the world's greatest consumer of energy resources. More and more of the petroleum we use now comes from other countries. Because of declining oil reserves and because of international events, the cost of petroleum is climbing. The high price we pay, in turn, increases our trade deficits and this has a negative effect on both the national and world economy.

For more than 30 years, we have hoped that nuclear power could meet at least some of our energy needs. Now, because of concerns about safety, waste disposal, costs, and other matters, this source does not look so promising. At the same time, U.S. citizens seem unwilling to recognize the seriousness of the problem. Many blame the oil companies, and others blame the government-both the President and Congress. We must decide what the facts are and what we are going to do.

- Divide the class into eight groups and assign each one of the roles listed above.

- Distribute **Student Handout A** to all the students and distribute the appropriate role cards from **Student Handout B** to each group. Have the students follow the instructions on Student Handout A and proceed with the simulation.

(You must determine the amount of time students will be given to complete each phase of the simulation.)

When the simulation is over, discuss the students reactions.

- Have our leaders dealt properly with the energy problem as it is today?
- What alternative energy schemes do you know of? Are they viable? Explain.

Intercom 98 - 1980
Author: Fred C. Curow, Jr.

Activity Ten: Developing an Energy Policy: A Decision-making Simulation

Worksheet 1: Student Instructions

Each of you will be assigned a role and receive some information about it. The rest is up to you and your group to determine and carry out. You will meet later with all of the groups to help the President answer the following questions:

- What must we do to conserve energy? How soon must we act? How much can we save?

- What percentage of our research and development budget over the next 10 years should be spent on the following:
  a. exploring for more domestic oil and gas, and extracting oil from shale;
  b. increasing use of coal, in its natural form and gasified or liquefied;
  c. expanding the use of nuclear energy
  d. using geothermal energy
  e. using alternate energy sources (solar, water, and wind).

- How can Congress be persuaded to pass the legislation needed to implement a comprehensive energy program?

- How can energy taxes be used within this comprehensive energy program?

Your group has some special interest in what decisions the President makes. What are those interests and how will you convince the President that the program elements you want should be part of his energy plan?

Activity Ten: Developing an Energy Policy: A Decision-Making Simulation

Procedure

1. Read directions and meet with the other advisors in your group. Make a group name plate. Discuss how you plan to attack the assignment. Begin your research.

2. Complete your research and prepare for a meeting with the other advisory groups and the President. During the meeting, you will try to persuade the President to accept your recommendations.

3. At the beginning of the meeting with the President, each group will turn in a written report containing:

   (a) the name of the group;
   (b) the names of the advisors;
   (c) an outline summary of each decision and supporting arguments; and
   (d) a complete list of sources used in the research.

4. Each group, in turn, will publicly announce its position and proposals, present its supporting arguments, and take notes in order to challenge the claims of other groups. The debate will end on _____.

5. The President (your teacher) will announce the final decision. The criteria for evaluation are:

   a) how closely the role is followed
   b) how convincing the arguments are
   c) the accuracy of information used, and
   d) the completion of each step on time.

All members of each group will receive the same grade, so, absences, nonparticipation, or careless work will affect the whole group.

Activity Ten: Developing an Energy Policy: A Decision-Making Simulation
Worksheet 2: Role Cards

Department of Energy

Your Department was established in 1977 and is directly responsible to the President. You share the President's concern over dependence on foreign oil and you want a program that will reduce that dependence while also maintaining a healthy economy. You will need the latest statistics and statements about petroleum dependence.

Department of Transportation

Your Department is directly responsible to the President. You are constantly under pressure from the transportation industries - trucking, auto, railroad, and energy - and you try to balance these interests. Don't neglect to examine the 55 mph speed limit as it relates to energy, safety, and the demands of motorists and truckers.

Conservation Groups

You are primarily concerned with improving the quality of life by using less energy and halting pollution from most existing energy sources (coal, oil, natural gas, wood, and nuclear reactors). You also want to lessen the dangers involved in extracting, transporting, and using these energy sources.

Nuclear Power Lobby

Your group includes representatives of privately owned utility companies producing electricity by nuclear power. Your aim is to promote the expansion of nuclear power for energy. You will need evidence to support the ideas that this source is safe, practical, and necessary.

Oil and Natural Gas Lobby

Your group promotes the exploration and use of domestic (U.S.) oil and natural gas, including oil from shale. You need to be persuasive in such areas as proven reserves, extended life of your products, and their value to the consumer and the economy.

Concerned-Citizens Group

You may take any position you choose, but your responsibility as a group is to be as objective as possible and come up with a plan that you believe will be of greatest benefit to all U.S. citizens.

U.S. Automobile Manufacturers Association

You are interested in gaining (or keeping) high profits in the automobile and truck industries. Generally, you favor few government regulations and want a healthy economy. You need evidence supporting your belief that measures are needed to improve your industry for the well-being of the nation and for its people.

The Solar Energy Lobby

Yours is a voluntary organization of citizens dedicated to: (a) influencing Congress and federal agencies to promote decentralized solar technology, and (b) disproving the arguments against solar energy (the main one being that it is nice, but not practical).

ACTIVITY ELEVEN: ON YOUR OWN

Introduction for Teachers: *This unit looks at the simplest level of shaping the environment - the changes resulting from one person living alone on a virgin piece of land. By devising and projecting the consequences of plans that will enable them to subsist for a year by themselves, students can become acutely aware of the interdependence and complexity in even a relatively simple system. They'll become aware of the concealed wiring - the hidden relationships between different elements in nature. And they'll learn something about decision-making. They'll see that each decision has consequences. An early decision may lead one student in quite a different direction than intended and have affects that were completely unanticipated. It can also limit or expand later options.*

There are no set answers expected in this unit. What comes out will depend largely on the amount of time spent and the level of student involvement. Experimental use of the simulation has produced enthusiastic response. Regardless of academic ability, students from grades 7 through 12 become caught up in the activity, perhaps because it contains an element of fantasy fulfillment - what would it be like to spend a year totally on your own.

Actually, students could spend a great deal of time refining their strategies, but that's not intended here. What you're aiming for are reactions like, "aha" and "I never thought of that before," and awakened appreciations for the mystery, complexity, resiliency, and delicacy of our natural surroundings, and our ability to alter them.

The heart of the unit is a simulation, in which each student will become a modern Thoreau and develop his or her own strategies for survival. Although the directions are written for each student to accomplish the entire activity on their own, this simulation may also be conducted as a cooperative learning activity with 2 to 4 students working on the assigned tasks as a team. The central idea of planning for a single individual to live on their own would remain the same.

Before the simulation it will be useful to read some preliminary material which will suggest some of the interconnections students will have to face. One reading is included here and can be reproduced for student use. The unit concludes with an optional foray into the realm of folk art, reflecting our broader understanding of environment - once beyond the basics, humans have shown a continued need for beauty along with practicality.

PERFORMANCE OBJECTIVES: Students Will Be Able To

- define the issues involved in living on our own
- engage in active decision-making as they move through the simulation
- evaluate the issues involved in being "on your own."

PROCEDURE:

- In preparation for the reading, teacher will ask students:
  - How do we meet our basic needs?
  - What might it be like to try to live in a setting where techniques and cushions of modern civilization are not available?
  - What kinds of systems do we depend on in our present-day communities?
  - How do the water, light, heat, food systems compare to the systems devised by pioneers?
  - Was life easier, or less complicated for them than for us?

- Distribute the reading ***Worksheet 1: Harvest Time on the Island.***
  Review responses to questions with the class.

- Let us begin the simulation called **On Your Own.**

[Notes for the Teacher]

The following student materials will need to be duplicated:

(a) Resources and Regulations; (b) Game Laws; (c) Cost Sheet; (d) Map (for easier use this should be redrawn in a scale at least three times as large); (e) Journal Sheet (to be put on the chalkboard & copied by each student)

Two other basic items for classroom reference will be extremely useful: copies of the Sears, Montgomery Ward or similar catalogs, including the available farm supplements. These needn't be current, but they shouldn't be so out-of-date that their prices are no longer realistic.

In this simulation students, working individually, are to try to live by themselves in the woods for one year. Their setting is the present, so they have access to more conveniences and research resources than 150 years ago, but the situation is not all that different. They have four months to establish the systems necessary to carry them through the winter. To begin, they will be given land, tools, clothing, and a limited amount of money.

That is all. Some "do nots" will keep the activities closer to subsistence. Do not let students take unrealistic short cuts. They will try. Do not let them make absurdly inexpensive purchases. Do not let them tell you that they have an uncle who would give them a shotgun or a keg of nails, or anything else. Do not let them hunt, fish, or trap out of season. (A simplified set of game laws-is provided. Although they will vary from your state's, it is easier to follow those given here.)

*If you have the Sears and Montgomery Ward catalogs, you can impose another restriction: limit their purchases, aside from livestock, vehicle, fuel, some building materials, and incidentals, to items listed in the catalogs. You can permit them to buy used items, costing 60 percent of the catalog prices. But we suggest that you don't let them buy everything used. Furthermore, they cannot rent anything. Some price guidelines are included with the students' materials, but not nearly enough to cover all needs. You will have to field many questions about the cost of this and that. It is a good idea to jot down what you have told one student about the price of a particular item; someone else is bound to ask the same question later. (If you let them challenge you, you will waste a lot of time arguing about these prices. **Don't.**)*

Students have from May 15 to September 15 to set themselves up for the rest of the year. By mid-September, all systems must be "Go," except for hunting and trapping. (During this period they may not work more than 70 hours a week. They may not live in a cave, dugout, lean-to, tent, or hollow tree, except while they are building a permanent dwelling to be completed prior to September 15.)

*Students must do their best to incorporate into all systems a respect for the land and the existing ecosystems it represents. **This should be a significant factor in any evaluation.** Another factor to consider in your evaluation is whether or not the students have included all of the following systems and in some detail. However, if you want to make the game proceed more quickly, you might suggest that they include at least the following six systems and then evaluate them on the quality of their proposals:*

BEST COPY AVAILABLE

1. A food system, including planting, weeding, harvesting (fishing, hunting, and trapping are options) food storage, including canning, drying, salting, smoking, possible construction of root cellar; provision for sheltering and feeding of any livestock, etc.

2. Sanitation and personal hygiene systems, which must include a human waste removal system, organic and inorganic trash removal systems, a bathing/washing system, a clothes and utensils washing system.

3. A shelter system, which could involve a cabin, yurt, dome, shanty, or other form of permanent dwelling.

4. A transportation system.

5. A water-use system which keeps pond and stream pure.

6. A heating system.

All systems should be relatively efficient. Students must live alone. They may not have friends and relatives come to lend free help. Students must keep an accurate journal of progress and expenses from May 15 to September 15. (Duplicate or copy on the chalkboard the Journal Sheet form provided.)

Students must indicate on the map all alterations to, and structures on, the land, including garbage pit, incinerator, waterpiping, dwelling, root cellar, animal enclosures, outhouse, equipment shed, etc. They should also locate the garden and indicate its approximate size. (The map is to exact scale.) All fences, walls, and roads should be included. (The property borders an improved road along the west boundary.)

Teacher will:

Provide each student with a map, cost sheet, rules and guidelines and place the journal sheet format on the board. Review instructions explaining that, using imagination and classroom resources, they are to begin setting themselves up, keeping an accurate journal as they go along. When they have plotted their way to September 15, they must add up all expenses and see how much they have left to last them through May 14 of the following spring. The weekly journal can be stopped at this point, but students should draw up a summary sheet explaining what systems they have set up and how those systems have been used to carry them through the balance of their year in the woods. This may sound very simple, but is not. If they attack the job with vigor and intelligence, they will soon find themselves confronted with dozens of important and far reaching decisions.

Encourage each student to explore the consequences of every decision made. For example, something has to be done about garbage and human waste. What system can be devised which will not result in land or water pollution? If a garden is planned, what will be planted and why? If farm animals are purchased, which ones were chosen and for what purposes? They will be making guesses here, usually based on little or no information. The debriefing and evaluation will indicate why some choices were wiser than others.

Some students will want to find out more about what foods to grow. Research beyond the catalogs available is entirely up to your discretion and to the time limits of the simulation. Obviously, the more research time allowed, the longer the simulation will last.

SUMMARY/EVALUATION

▸ We are now going to look at one implication of a choice you have made.

(Teachers notes to be shared with the class: For example, many students might buy a cow a seemingly sensible purchase. A cow gives milk, which can be drunk and also converted to butter and cheese. Or the animal can be slaughtered for meat. Actually, a cow is a very foolish purchase, under the circumstances. One cannot consume more than 15 percent of the milk even an inferior milker gives. A cow must be milked twice a day when in her most productive cycle. This means that the student must be on the site seven days a week. Making butter and cheese is a lot of work, and these products are hard to store. Cows also consume too many resources such as water, energy, and land space. They must be fenced in, and will over-browse the land, muddy the pond, and get in the garden. If one is butchered it will yield much more meat than the student can store, or even consume in a year. Better to trade the cow for a handful of magic beans!

A goat makes much more sense. Its milk is richer and it yields less. Goats are great foragers and can actually help to clear out sections of brush where staked out. The meat of their offspring (kids) is good eating and matures fast. Pigs and sheep are not worth considering, and a horse is also a poor investment. Chickens are a wise choice. They're inexpensive to feed, lay eggs, and are old enough to be eaten at three or four months. Their manure is great fertilizer. Still, they have to be housed and penned at least part of the time, and chicken is relatively cheap at the supermarket.

The student who buys a motorcycle has made a serious mistake. He can haul nothing in it- and he has to do a lot of hauling. Furthermore, motorcycles are not useful when the temperature drops or when there is snow and ice. A used truck is the best bet. It's cheap, sturdy, and good for hauling. A jeep isn't really necessary. The public road is plowed in the winter.

Some will build a fireplace for cooking and heating. That's not a good idea. Fireplaces are hard to build, throw relatively little heat, and are difficult to cook in. A small wood stove is best. They're inexpensive and comparatively efficient.

A shotgun is a wiser buy than a rifle, because it can be used for large and small game. Log cabins are part of our heritage and pretty to look at; they're also devilishly hard to erect. A yurt (read up on them) is a cinch by comparison, and is just as cozy and rugged as a cabin. Compare the two-week span for building a 20-foot yurt with ten weeks or so of back-breaking labor to erect a cabin. And so on. ***The object here is not to teach students about cows or yurts: it is to teach them to think in terms of the relationships of systems.***

▸ Let us look at some information:

- Allow students to report on their decisions:
- How did you reach that decision?
- What factors did you consider?
- Do you think you made the correct decision? Explain.

Follow-up Activities

Ask students what they have been able to do about providing for the next year. How about the trappers in the group? Do they realize that to make $400 - $500 on skins they must invest over $200 in traps and related equipment, and must put in an average of three hours a day during the season? Bee-keeping might be more sensible. Honey can be sold for 50 cents a pound, and a good hive yields 60-70 pounds a year and requires little upkeep. Eight hives can be set up for about the same cost as the traps, and will produce for years.

- Select a student panel to review and critique students' proposals. Or divide the class into groups of four or five to discuss their findings and come up with a master plan.

- Post the individual maps on the bulletin board and let the class comment on the different choices. (e.g. Did anyone notice that only three students out of the entire class thought to fence in their garden? Why are half the dwellings completely in the open, where they'll be subjected to winter winds and the direct rays of the sun in summer? Etc.)

Additional Enrichment Activities

Have students list, or submit for discussion, the drawbacks of the lifestyles they have created. Which systems had the biggest problems? Which systems were the most enjoyable? And which cost the most?

Also have them consider their decisions: Which limited their choices? Which led to the greatest damage to preexisting ecosystems? Do they see any connections between the systems they discovered in this game and the more complex systems of their community?

For those students who succeeded in making it on their for the entire year, ask if they really did make it on their own. In what ways did they still depend on other people and the products of other people's efforts? (They depended on products, tools, and systems that were made by others. In our highly specialized society, the extent of our interconnectedness is extensive and complex.) How might they have survived without any of those products?

Finally, would they really like to do it? Would they stick out the year and maybe hang in for another year? In what ways would living at a lower consumption level be a more or less satisfying way of life?

Additional Resources

- *How to Stay Alive in the Woods*, Bradford Angier (Collier-Macmillan, 1956)
- FoxFire Book, Foxfire 2, Foxfire 3, ed. Eliot Wigginton (Anchor Books, Doubleday)
- *Whole Earth Ecolog:The Best of Environmental Tools and Ideas*, J. Baldwin, Crown, 1990

Seed Catalogs

W. Atlee Burpee Co.
300 Park Avenue
Warminster, PA 18991

Government Offices and Other Organizations

U.S. Department of Agriculture, Publications Division
Government Printing Office, catalog of publications
Future Farmers of America, check for nearest chapter
4-H Club, Nearest chapter
State Department of Agriculture
State Conservation Department
Cooperative Extension Services

Other Stories of Survival:

The Big Sky and *The Way West*, A.B. Guthrie

"*To Build a Fire,*" Jack London (in various short story collections)

Lord of the Flies, William Golding

Robinson Crusoe, Daniel Defoe

Big Two-Hearted River, Ernest Hemingway

Pitcairn's Island (Part III of The Bounty Trilogy), Charles Nordoff and James N. Hall

ACTIVITY ELEVEN: ON YOUR OWN

Worksheet 1: Harvest Time on the Island

You're soon going to be trying your hand at developing strategies for subsisting on your own. This reading will give you some idea of what's involved. It's an excerpt from Swiss Family Robinson, written in the 19th century by the Swiss author Johann Wyss.

The family has been shipwrecked on a deserted island. Using whatever they could salvage from the ship, they established a home and began developing techniques to aid their survival. The father has just finished the undertaking of building a simple machine to crush corn (the European term for what we call wheat: our corn is maize to Europeans).

While engaged in this undertaking I had paid little attention to our fields of grain, and, accordingly, great was my surprise when one evening the fowls returned, showing most evident indifference to their evening meal, and with their crops perfectly full. It suddenly struck me that these birds had come the direction of our corn field. I hurried off to see what damage they had done, and then found to my great joy that the grain was perfectly ripe.

The amount of work before us startled my wife. This unexpected harvest, which added reaping and threshing to the fishing, salting, and pickling already on hand, quite troubled her. "Only think," she said, "of my beloved potatoes and manioc roots! What is to become of them, I should like to know? It is time to take them up, and how to manage it, with all this press of work, I can't see."

"Don't be down hearted, wife," said I; "there is no immediate hurry about the manioc, and digging potatoes in this fine, light soil is easy work compared to what it is in Switzerland, while as to planting more, that will not be necessary if we leave the younger plants in the ground. The harvest we must conduct after the Italian fashion, which, although anything but economical, will save time and trouble, and as we are to have two crops in the year, we need not be too particular."

Without further delay, I commenced leveling a large space of firm, clayey ground to act as a threshing floor: it was well sprinkled with water, rolled, beaten, and stamped; as the sun dried the moisture it was watered anew, and the treatment continued until it became as flat, hard, and smooth as threshing floor need be.

Our largest wicker basket was then slung between Storm and Grumble; we armed ourselves with reaping hooks, and went forth to gather in the corn in the simplest and most expeditious manner imaginable.

I told my reapers not to concern themselves about the length of the straw, but to grasp the corn where it was convenient for them, without stooping; each was to wind a stalk around his own handful, and throw it into the basket; in this way great labor was saved. The plan pleased the boys immensely, and in a short time the basket had been filled many times, and the field displayed a quantity of tall, headless stubble, which perfectly horrified the mother, so extravagant and untidy did she consider our work.

"This is dreadful," cried she; "you have left numbers of ears growing on short stalks, and look at that splendid straw completely wasted! I don't approve of your Italian fashion at all."

"It is not a bad plan, I can assure you, wife, and the Italians do not waste the straw by not cutting it with the grain; having more arable than pasture land, they use this high stubble for their cattle, letting them feed in it, and eat what grain is left; afterward, allowing the grass to grow up among it, they mow all together for winter fodder. And now for threshing, also in Italian fashion. We shall find it spares our arms and backs as much in that as in reaping."

The little sheaves were laid in a large circle on the floor, the boys mounted Storm, Grumble, Lightfoot, and Hurry, starting off at a brisk trot, with many a merry jest, and around they went, trampling and stamping out the grain, while dust and chaff flew in clouds about them.

My wife and I were incessantly occupied with hayforks, by means of which we shook up and moved the

sheaves over which the threshers rode, so as to throw them in the track.

From time to time the animals took mouthfuls of the tempting food they were beating out; we thought they well deserved it, and called to mind the command given to the Jews, "Thou shalt not muzzle the ox that treadeth out the corn."

After threshing, we proceeded to winnowing: by simply throwing the threshed corn with shovels high in the air when the land or sea breeze blew strong, the chaff and refuse was carried away by the wind and the grain fell to the ground.

During these operations our poultry paid the threshing floor many visits testifying a lively interest in the success of our labors, and gobbling up the grain at such a rate that my wife was obliged to keep them at a reasonably distance; but I would not have them altogether stinted in the midst of our plenty. I said, "Let them enjoy themselves; what we lost in grain, we gain in flesh. I anticipate delicious chicken-pie, roast goose, and boiled turkey!"

When our harvest stores were housed, we found that we reaped sixty, eighty, even a hundred fold what had been sown. Our garner was truly filled with all manner of store.

Expecting a second harvest, we were constrained to prepare the field for sowing again, and immediately therefore commenced mowing down the stubble. While engaged in this, flocks of quails and partridges came to glean among the scattered ears. We did not secure any great number, but resolved to be prepared for them next season, and by spreading nets, to catch them in large quantities.

My wife was satisfied when she saw the straw carried home and stacked; our crop of maize, which of course had not been threshed like the other corn, afforded soft leaves which were used for stuffing mattresses, while the stalks, when burnt, left ashes so rich in alkali as to be especially useful.

I changed the crops sown on the ground to rye, barley and oats, and hoped they would ripen before the rainy season.

The shoals of herring made their appearance just as we finished our agricultural operations. This year we pickled only two barrels of them; but we were not so merciful toward the seals, which arrived on the coast directly afterward. We hunted them vigorously, requiring their skins for many purposes, more especially for the completion of the cajack. On the little deck of that tiny vessel I had made a kind of magazine, in which to store pistols, ammunition, water, and provisions, and this I meant to cover with sealskin, so as to be quite watertight. A couple of harpoons furnished with seal bladders were to be suspended alongside.

(1) Excerpted from Johann Wyss, Swiss Family Robinson (New York: G. Routledge & Son, 1882)

Exercises:

1) Identify the systems on which the family depended.

2) How do these systems compare with modern systems?

Optional Readings: (To be distributed to students at teacher's discretion)

Work at Home:

The following selections give hints of systems for which women were responsible in early America. While not log-cabin pioneers, these women filled absolutely necessary roles in keeping life going. List the systems suggested in each passage. Which are most important? What similar systems do you rely on today? How much of the work do you yourself have to do?

1. Excerpts from the diary of Abigail Foote, a young girl living in Colchester, Connecticut, in 1775. (Source: Connecticut Historical Society)

..Fix'd gown for Prude _ Spun short thread - Carded tow - Spun linen - Worked on Cheese-basket - Hatchel'd flax with Hannah, we did 51 lbs. apiece - Read a sermon of Dodridge's - Spooled a piece - Milked the cows - Made a broom of Guinea wheat straw - Set a red dye - Spun harness twine - Scoured the pewter - Pick'd a goose - Made soap - Dipped candles.

2. Advertisement that appeared in the Pennsylvania Packet newspaper, Sept. 23, 1780:

Wanted at a seat about half a day's journey from Philadelphia, upon which there are good improvements and domestics, a single woman of unsullied Reputation, an affable, cheerful, active, and amiable Disposition; cleanly, industrious, perfectly qualified to direct and manage the female Concerns of country business, as raising small stock, dairying, marketing, combing, carding, spinning, knitting, sewing, pickling, preserving, etc., and occasionally to instruct two young Ladies in those branches of Economy, who, with their father, compose the family. Such a person will be treated with respect and esteem, and meet with every encouragement due to such a character.

3. Wilderness Emotions. In the mid-1840s, a journalist named George W. Kendall took part in an expedition from Texas to Santa Fe. He became separated from his companions and found himself lost on the great Southwestern Prairie. Here is how he described the experience:

A sickening feeling of loneliness came over me on finding myself in that worst of all situations upon a prairie - lost! The sun was still high in the heavens, and I could not tell which was north or which south. I had my rifle and pistols with me, was well mounted, and had a sufficiency of ammunition, but I was not well enough acquainted with a prairie life to steer a course, even if I had known what course to start upon: neither was I hunter enough to feel confident that I could kill a sufficiency of meat in case I should be unsuccessful in finding my companions. Another thing, I had already found out what every hunter knows, that the more hungry a man grows upon the prairies, the more difficult it is to shoot it. There, then, I was, without a companion and without experience - starvation staring me in the face, or even if I was fortunate in obtaining meat, I was still almost certain to be killed and scalped by the Indians, or end my days in vain efforts to reach the settlements. I thought of home, and made up my mind firmly that if ever I was fortunate enough to reach it, I should be in no particular hurry to leave it again.
- George W. Kendall, Across the Great Southwestern Prairies

Compare Kendall's experience with your own planning. Do you think that you might have felt similar kinds of loneliness and fear? What feelings do you think you would have when you finally returned to civilization?

Intercom 83 - 1976
Author: Peter R. Stillman and Cathryn J. Long

ACTIVITY ELEVEN: ON YOUR OWN

Worksheet 2: Resources and Regulations

Your goal in this simulation is plan how to live by yourself for one year. The setting is the land depicted on the map, the time is the present. You have four months -- from May 15th to September 15th to set yourself up for the rest of the year. By mid-September, all systems must be "Go," except for hunting and trapping. (During this period you may not work more than 70 hours a week. You may not live in a cave, dugout, lean-to, tent, or hollow tree, except while you are building a permanent dwelling to be completed prior to September 15.)

- You must live alone. You may not have friends and relatives come to lend free help.
- You must do your best to incorporate into all systems a respect for the land and the existing ecosystems it represents.
- You must keep an accurate journal of progress and expenses from May 15 to Sept. 15.
- You must indicate on the map all alterations to, and structures on, the land. (These should be drawn to scale.) You should also locate the garden and indicate its approximate size.

▸ **You start the challenge with the following:**

Five acres of land, on which an annual tax of $50 has already been paid. The property is hilly, and is 1800 feet above sea level. It is located in the Northern Temperate Zone and has a four-season climate with a fairly harsh winter (temperatures often drop to subzero). The land has a stream 5 feet wide and a pond 80 feet across. Each contains pure water and a small number of fish. Half the property is covered with mixed hard and softwood trees, the remainder being open field. The property borders an improved road along the west boundary.

The adjacent land is partly wooded, partly open fields. It may be used for gathering wild foods, trapping and hunting, and collecting firewood. **No live trees are to be cut!** It may not be farmed or used for pasturing animals.

The 5 acres are 5 miles from the nearest village (200 pop.) and 15 miles away from the nearest town (4000 pop.). The nearest source of electric power is over a mile away, too far to be tapped.

You also have fifteen hundred dollars, on which you must live for a year. Out of this money all purchases must be made, including building supplies, a complete set of hand and garden tools, and an adequate supply of clothing for all seasons.

GAME LAWS

Hunting: Big Game: Deer - limit 1 per calendar year, buck only. Nov. 15 - Dec. 12.
Bear - closed season.
Small Game: grouse, quail, pheasant, squirrel, cottontail - daily limit 4. Oct. 1 - Feb. 28.

Trapping: (Traps must be checked every 24 hours). Beaver, mink, muskrat, raccoon, skunk, otter, gray and red fox. Nov. 30 - March 15.

Fishing: Season is open April 15 - Sept. 30

COST SHEET

Livestock:
Milk cow, vintage $200.00
Calf, 1 week old $25.00
Horse 250.00
Goat, a doe (female) 40.00
Pig, 4 weeks old 25.00
Lamb, 2 months old 40.00
Chickens, 3 months old 2.00
(Chicks are listed in catalogs, as are ducks, geese, turkeys, bees.)

Vehicles:
Pickup truck, 12 years old $200.00
Jeep or other 4-wheel drive vehicle, 10 years old $500.00
Snowmobile, 3 years old 200.00
Motorcycle 300.00
Bicycle, 10-speed, 2 years old 65.00

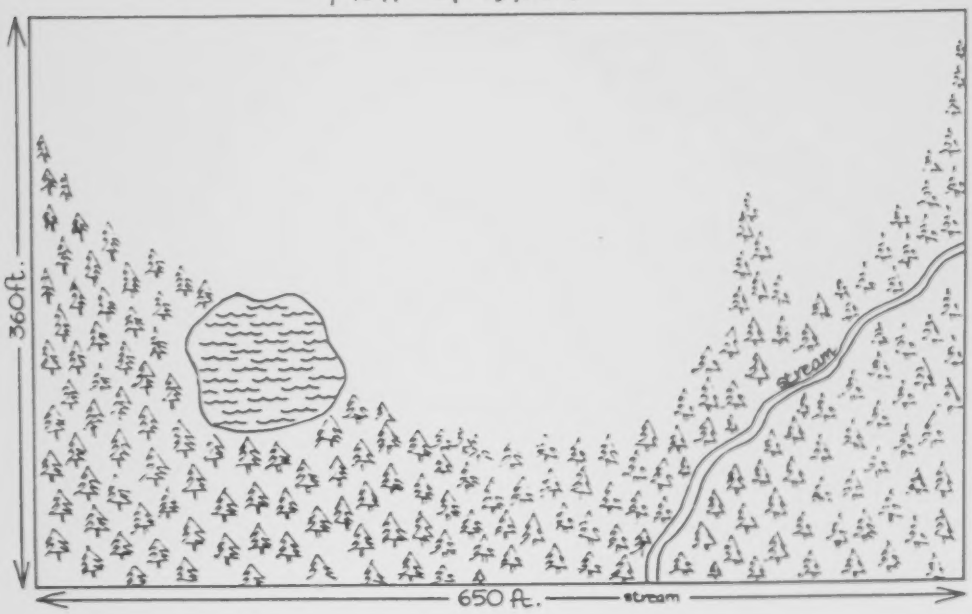
Building Supplies:

Plywood, 4' x 8' sheets, exterior grade $6.00
2" x 4"'s, 8 feet long $1.00
Nails, any kind, per pound 50 cents
Concrete blocks, each 50 cents
Planks, estimate per board foot 70 cents
(Most other building supplies are listed in catalogs)

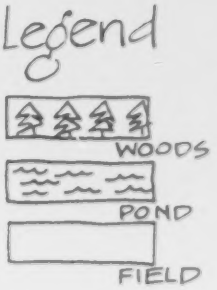
Miscellaneous:
Trapping, Hunting, Fishing: each license $5.00
Hired labor, per hour $3.00
Gasoline, per gallon $1.00
Kerosene, per gallon 50 cents
Registration and Insurance fees for vehicle, low average 100.00
Cost of farmer and tractor to plow and rake garden plot 30.00
Grain for animals, 100-pound bag (consumed at a rate of 1/2 pound per day per animal) 9.00
Hay, baled, per bale (allow 1/2 bale per day per animal from Oct. 15 to May 15).

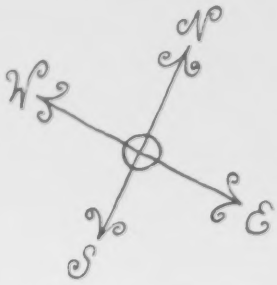
To get started, brainstorm a list of all the things you need to do to live through the coming year on your own. Then put them in chronological order. What needs to get done first, second, etc.? Then enter each activity as if you had finished doing it, and enter its expenses on your weekly journal sheets, starting with the week of May 15th. Finally, draw up a summary sheet explaining what systems you have set up and how those systems have been used to carry you through the balance of the year in the woods. Remember, you must stay within your personal and environmental budgets!

Map of Farm



Legend





.015 INCHES = 1 FOOT / 43,560 SQ.FT. = 1 ACRE

JOURNAL SHEET

Week of _____ 19____

Accomplishments	Expenses	
	Item	Cost
		$
	Total Expenses	$ _____

Activity Eleven: On Your Own

Worksheet 3: Beyond the Basics

Peasants, and pioneers and the students in the simulation do not have much time for the enjoyment of fine arts. Yet the early settlers of this country tried and the later frontier groups that made their way into the western wilderness developed a considerable folk art, which they used in the decoration and design of purely functional objects.

The following folk art activity is designed to give students a tangible way of remembering that human needs are not strictly physical. Some other impulse creates the need to design a farming tool with care, to decorate a plate or a storage jug. This might be considered the aesthetic side of shaping one's environment-we want our surroundings to be pleasant and appealing, not just sufficient for survival.

Such art can also be used to illustrate the degree of interdependence of the artisan, whether past or present, with the rest of the world. Folk art of any time or place reflects two important factors: the cultural background of the maker and the local availability of materials. And the folk art of a people indicates how far their web of communication and trade reaches. Thus, the seashells in an Indian burial necklace of the Midwest prove that the tribe's cultural fingers reached somehow to the sea. A New England woman's patchwork quilt might show European influence in the design but contain cloth that could come only from New Hampshire or Massachusetts. A slave's woven coverlet shows Georgia cotton and indigo married to a West African traditional pattern. Students can learn to use folk art as a kind of cultural clue even as they enjoy its beauty and utility.

Step 1: Reproduce the illustrations of folk art. Explore with the class the reasons why people took such painstaking care to produce objects they needed, and to create them with a sense of beauty and design.

Step 2: Explore your local area for folk art that is native to your region. Field trips to museums, antique shows, or historical buildings would be one way to approach this. In considering the examples the students find, discuss such questions as:

- What was the object used for?
- What is unique or interesting about the design or decoration?
- What guesses can you make about the person who designed it? Consider his or her background and the evidence you have for your guesses.
- Trace the origins of (a) the materials used; (b) the design.

If you can find a number of objects from your area (or any particular area), use local and world maps to pinpoint the origins of the folk art materials and (as far as you can discover them) the design ideas. A southwestern candle sconce, for instance, may be made of local tin, but the designer may have had in mind Spanish silversmithing methods. A Shaker box may have originated entirely-in design, materials, even the lacquer and nails from one small village.

Step 3: When historical investigations have been completed, turn to the modern folk art in your area. Students may claim that there isn't any-but encourage them to keep their eyes open. Wherever

ordinary people have decorated or designed useful objects, or items to enhance their own homes or shops, there is a kind of folk art. The murals that have sprung up on some of our blank city buildings qualify; so do the original needlework projects being worked by more and more people. How about bottle lamps, flames handpainted on cars, embroidered workshirts, and elaborated blue-jean patches? Try making the same kind of maps as before to show the origin of materials and design ideas of a number of modern folk art objects. Using the two sets of maps, compare the modern and historical folk art in your area. Some conclusions students may draw are that:

- It is harder to trace design ideas in the modern world because of our quick mass communication and the way cultures around the world have intermixed.
- Materials used for modern folk art tend to come from farther away than in the past.
- Modern materials are generally more varied than those used in earlier times.
- Modern folk art makes more use of items already manufactured; older objects were more often made directly from raw materials.
- Older folk art concentrated more on useful objects.
- Tastes have changed in some ways but remained the same in others.

Step 4: Once students are thoroughly familiar with the idea of folk art, have them make objects of their own. These could be connected with the survival simulation such as making some object they would want in that situation. A good restriction is to require that the object actually be useful. It should also, of course, be attractive (at least to its maker). Some students may want to follow the form of older folk art objects; others may choose modern designs or techniques. The library, shop, home economics department, and art department should be sources for many "how-to" books and ideas.

A few possibilities:

- A small patchwork item, such as a table mat or hot pad
- Candles
- A metal or wood mailbox or toolbox
- A road or building sign

When the projects are completed, have students write out or discuss their responses to these questions:

1. Did you enjoy making your object? Do you think a pioneer making a comparable object would have felt as you did? Why or why not?

2. Where did your materials come from *originally*? (Try to go beyond the store or school supply: where do you think they were made or found?) Could someone your age 150 years ago have used the same materials?

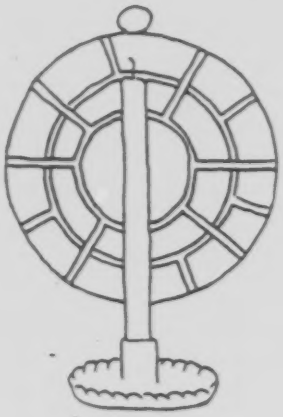
3. How did you get your idea for design or decoration? Would this idea have been "in the air" when your area was first settled?

Worksheet 4: Folk Art

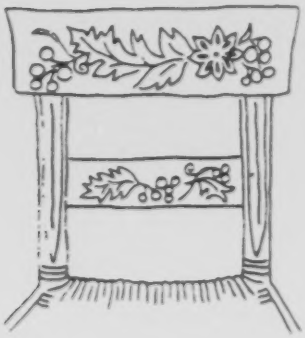
Wooden Buttermold. The mark on the butter often distinguished the maker; barnyard motifs—birds and animals—were favorites, as were tulips and regional flowers.

Earthenware Dish. Everyday articles from plates and mugs to soap dishes and candlesticks were ornamented with bright designs. Familiar animals—rooster, deer, and rabbit—and the tulip and lily of the valley were popular.

Stoneware Jar. The shape of these storage jugs and crocks was simple, but the cobalt blue decoration could be both imaginative and whimsical. Birds and flowers were favorite designs, and the brush strokes were frequently exuberant and free.

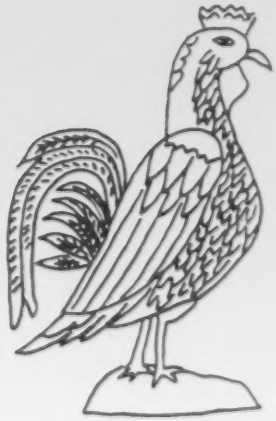


Tin Candle Sconce. The candle flame reflected by the tin created a brighter light. Grooves aided the reflection, and the patterns provided decorative interest.



Stenciled Chair. Furniture was ornamented with painted designs. Baskets of fruit, and flowers and leaves, were favorite designs to be stenciled onto chair backs.

Indian Weathervane. The weathervane was both useful and decorative. It not only told the weather, but could sometimes give some data on its owner. Farmers would have cow, horse, pig, or rooster vanes, while seacoast houses could have a fish, sailboat, or dolphin. They were sometimes also used as trade signs.



Carved Rooster. Whittling was a favorite pastime, and traveling whittlers liked to carve barnyard birds because they could study them closely. The whittler could create interesting patterns for feathers and other features.

Painted Chest. Traveling artists often decorated furniture with brightly colored designs. Tulips and hearts—along with birds, leaves, and vines—were symbolic designs used by these anonymous artists.

ACTIVITY TWELVE: A FEELING FOR THE EARTH

Teacher Background:

Through the following reading and questions, students should gain some idea of how a variety of peoples regard their planetary home. This small selection can only be suggestive, and is intended to interest students and encourage them to consider what relations with the earth tend to make people happiest. As students discover that they share certain attitudes with such diverse peoples as African Pygmies and classical Chinese painters, they'll also be rethinking how their own actions reveal their personal relationship with the earth's biosphere.

The activity suggestions at the end are intended as sensitizing experiences. Depending on class interest, you may want to take the lesson further in one particular direction or another: look at the poetry of Native Americans, for instance, or compare Chinese landscape painting with European or American. This sort of material lends itself well to exploration of personal feelings and values. To overgeneralize or try to make scientific comparisons among the cultures could easily kill interest and might lead to inaccuracies.

PERFORMANCE OBJECTIVES: Students should be able to

- recognize that people have strong feelings about their physical environment.
- analyze examples of poetry and art to discover the values held by diverse peoples.
- develop their own values regarding the preservation and development of the land.
- research the natural history of their own locale and express their feelings about it.

PROCEDURE:

- Human beings live on nearly every kind of ground the earth provides - from desert to jungle, grassland to ice plain. In addition, they live in many different societies with different values and beliefs.

Divide class into **cooperative learning groups.** Distribute **Worksheets 1 thru 6** to groups. Allow students time to read worksheets and complete exercise. Teacher will have each group debrief, placing responses on **organizer**.

A Feeling for the Earth

Group	**Attitudes Toward the Earth**	**Examples**
Pygmies		
Villagers		
Eskimos		
Arab Desert People		
Chinese		
New England		

- Is it still possible to say that people can feel similarly about their home, the earth?

- What attitudes toward the earth are shared by these diverse peoples?

- How can a people's feelings about the earth improve the quality of their lives?

Summary/Application:

- It is easy in modern times to feel remote from the earth. The environment we depend on is far vaster than a single forest or village. Satisfaction of our basic needs seems to come from the factory rather than the field or forest. And even outside the big cities most U.S. citizens live on land that has been paved over, built on, or otherwise transformed. Yet the earth is there - past the freeway, between the houses, beyond the TV room. The following activities are ways to get back in touch with the land you live on.

  1. Go to the highest point you can locate in your community (a hill, church steeple, the top of a skyscraper). Look around at the landscape. It is easier to see the lay of the land when you get away from it a little. How does it look - bustling or peaceful? Grand or homey? Note your impressions in a few words.

  2. Visit a spot in your community or nearby where you think the land has been least affected by people. This may be the woods outside of town or the vacant lot next to the school. Sit there for a time, observe the plants, soil, insects, water run-off. Try to imagine how the people settled there. Supplement your imagination with a visit to the local natural history museum or the library.

  3. Take a sketchbook or camera to the natural landmark in your area that you find most interesting. It may be a gully or a mountain, a turn in a forest path or a hill that divides one part of town from another. Draw or photograph the landmark from several angles. Try to show in your picture why you find that piece of land interesting.

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ACTIVITY TWELVE: A FEELING FOR THE EARTH

Worksheet 1: The Forest People - Pygmies

Colin Turnbull is a British anthropologist who has studied many African societies close up. One group Turnbull has studied and loves are the Pygmies of the Congo. The Pygmies are probably best known for their small size. The average Pygmy is just 4 feet 2 inches tall. Before Turnbull went to study them, few people knew how the Pygmies lived. Even anthropologists thought they had become a kind of servant people under the thumb of other African tribes. Turnbull discovered that while the Pygmies liked to trade with other peoples for farm products and luxuries, they also had a world of their own, deep in the heart of the forest away from the villages of their African neighbors. There they carried on their business of cooperative hunting, gathering, and living the good Pygmy life. Turnbull was charmed by the way of life in a Pygmy hunting camp, and decided that at the core of Pygmy happiness lay an all-important relationship between people and environment. In his book The Forest People Turnbull describes the Pygmy camp and its place in nature.

.... Apa Lelo, or the Camp of Lelo, will always be one of the most beautiful parts of the whole forest for me. This is partly because of what happened there, but also because it is one of the places where the forest is at its gentlest and kindest....This glade was almost an island, as the Lelo swept around it, all but encircling the camp. The Lelo, the river the Pygmies loved above all others, widened out at the end of its curve into a broad shallow stream, a hundred feet or so across, clear and rippling. When the water was low a bank of shingle rose in the center. In the middle of the day the sun found its way through the leaves and struck this bank, and the women liked to wade out to it and do their washing there....During the day one Pygmy camp looks much like another. The sun filters down through the trees and brightens the camp with shafts of spiraling light as it catches the columns of smoke drifting lazily upward. This is what makes a camp look so full of life at mid-day even when most people are out on the hunt and those that have stayed behind are dozing in the shade of their little leaf huts. The light has a life of its own, and after it has danced down the coils of blue smoke it seems to leap from place to place on the leafy floor of the camp as the trees sway in the breeze high above. And when you listened you hear life in myriad forms all around - birds, monkeys, bees; the rustling of a nearby stream and the never-ending voice of the forest itself. It continually whispers assurances that all is well, that the forest is looking after its children.

.... The camp really comes to life only when the hunt returns. Long before the first hunter appears the whole camp knows exactly who has caught what. They know partly by listening for the shouts and arm claps of the returning hunters, which they can hear from a considerable distance, partly because throughout the day children come and go between the camp and the hunt, if they are not too far apart, bringing news to and fro. As soon as the hunters return they deposit the meat on the ground, and the camp gathers to make sure the division is fair. Nobody acknowledges that it is, but in the end everyone is satisfied. Cooking operations start at once and within an hour everyone is eating. If the hunt has been a good one, and the day is still young, the most energetic men and women dance immediately afterward, followed by the children. In the course of such a dance they imitate, with suitable exaggeration, the events of the day. If the hunt has not been so good, or a man is tried and does not feel like dancing, he will sit down and gather his family around him and tell them something that has happened to him on the hunt, something wonderful and exciting, but which naturally happened while nobody else was looking. Moke an older Pygmy, explained to Turnbull his people's feelings about the forest: "The forest is a father and mother to us, and like a father or mother it gives us everything we need - food, clothing, shelter, warmth ... and affection." The Pygmy people tend to settle through group decision many matters that in other societies are handled by leaders. They feel their main task in life is to stay in harmony with the basic goodness of the forest. Turnbull says. If you ask a Pygmy why his people have no chiefs, no lawgivers, no councils, or no leaders, he will answer with misleading simplicity, "Because we are the people of the forest." The forest, the great provider, is the one standard by which all deeds and thoughts are judged: it is the chief, the lawgiver, the leader, and the final arbitrator.

(1) Do you think you would enjoy living in a Pygmy camp? Have you ever been in a place even a little like that?

(2) The Pygmies say, "The forest is a father and mother to us. "Is the earth at all like a father and mother to modern Americans? How does it provide "food, clothing, shelter, and warmth"? What do you think the Pygmies mean when they say the earth gives them "affection"? Is that true in some way for you? Explain.

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Worksheet 2: The Villagers and the Forest

You may think the forest where the Pygmies live is such a paradise that anyone would be happy to live there. After all, it seems to be full of food and beautiful scenery. Yet other people, who live on the edge of the same forest, have a very hard time getting along in their environment. There are the African villagers who trade with the Pygmies. Instead of hunting and gathering as the Pygmies do, these villagers have tried to farm, but the land is not good for farming, so they ar forced to move on to a new spot every few years. Turnbull explains the villagers' feelings about the forest.

The attitude of all these villagers to the forest was the same. They made their villages as open as possible, and they built their houses without any windows. They tried to ignore the world around them, because for them the forest was hostile, something to be feared and fought. Even after cutting it down there was the constant labor required to keep it from growing back. It was filled with evil spirits that cursed the soil so that although it would bear gigantic mahogany trees it would produce only the most meager fruits for the villagers.

The tribes of this area had once been plains dwellers, with herds, of cattle, living in the friendly open spaces of East Africa. When they were driven into the forest by more powerful tribes, they brought as much of their plains culture with them as they could. But their cattle died off, and they had to live by cultivation alone. They brought with them their ancestral beliefs, but the spirits of their ancestors resented being taken away from their rolling, open homelands and forced to live in the forest. In the plains the very ground was sacred to the ancestors who had lived there for generations, but here there could be no such bond. The graves themselves had to be abandoned to the forest sooner or later, as the clans shifted endlessly in the search of fresh soil. While the only place the villager could call home was the temporary, sun-scorched clearing which he had cut for himself, and in which he would live a few years at the most. To the Pygmy the whole forest was home.

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(1) "Working with the earth is easier than working against it." Does this statement explain the different attitudes of the Pygmies and villagers toward the forest?

(2) What beliefs and values, useful in their old grasslands home, have kept the villagers from fully using and enjoying the forest?

(3) If you had to go to live in the forest described here, how much of your present lifestyle would you try to keep? Would it be easy to give up familiar foods, housing, transportation, etc., for ways more suited to the new environment? Of course, modern technology makes it possible to transform almost any place into one that suits our current values better. What are the dangers of making such sweeping changes? Consider both danger to the environment and the danger to other societies.

Activity Twelve: A Feeling for the Earth
Worksheet 3: Two Harsh Worlds

Some people live in very harsh areas, where climate and terrain make life almost impossible. What attitudes toward the earth help keep people going in such areas?

Eskimo Song

Glorious it is to see
The caribou flocking down from the forests
And beginning
Their wandering to the north.
Timidly they watch
For the pitfalls of man.
Glorious it is to see
The great herds from the forests
Spreading out over plains of white.
Glorious to see.
Yayai ..... ya .... yiya.
Glorious it is to see
Early summer's short-haired caribou
Beginning to wander.
Glorious to see them trot
To and fro
Across the promontories
Seeking a crossing place.
Yayai ... ya .... yiya.
Glorious it is
To see the great musk oxen
Gathering in herds
The little dogs they watch for
When they gather in herds.
Glorious to see
Yayai ... ya .... yiya.
Glorious it is
To see young women
Gathering in little groups
And paying visits in the houses...
Then all at once the men
Do so want to be manly,
While the furloughs simply
Think of some little lie.
Yayai .... ya .... yiya.
Glorious it is
To see long-haired winter caribou
Returning to the forests.
Fearfully they watch
For the little people
While the herd follows the ebb-mark of the sea
With a storm of clattering hooves.
Glorious it is
When wandering time is come Yayai ... ya .... yiya.

(1) Why are the Eskimos especially happy "when wandering time is come"? How do they benefit from the seasonal changes described in each stanza?
(2) The Eskimos have few songs of complaint about their harsh climate. Why do you think this is so?

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Worksheet 4: Crossing the Desert

Richard F. Burton was a 19th - century English explorer. In the late 1890s. he decided to make a voyage to the holy Muslim city of Mecca - a dangerous trip at the time for a non-Muslim. For his own safety, and to learn better about the people and places he was to visit, Burton dressed as an Arab and learned the native languages. He soon learned to appreciate the desert as keenly as did his fellow Arab travelers on camelback. The following is from his memoir of the trip across the desert.

We arose about 9 A.M. After congratulating one another upon being once more in the "Dear Desert," we proceeded in an exhilarated mood to light the fire for pipes and breakfast. The Meal - a biscuit, a little rice, and a cup of milkless tea - was soon eaten.

{The travelers nap through the heat of the day until later afternoon.}

We journeyed on till near sunset through the wilderness without boredom. It is strange how the mind can be amused by scenery that presents so few objects to occupy it. But in such a country every slight change of form or color views the eye. The senses are sharpened. Above, through a sky terrible in its stainless beauty, and the splendors of a pitiless blinding glare, the Samun (desert wind) caresses you like a lion with flaming breath. Around lie drifted sand heaps, flayed rocks the very skeletons of mountains, and hard unbroken plains, over which he who rides is spurred by the ideas that the bursting of a water skin, or the pricking of a camel's hoof, would be a certain death of torture, - a land of wild beasts, and wilder man, - a region whose very fountains murmur the warning words "Drink and away!" What can be more exciting? Man's heart bounds in his breast at the thought of measuring his puny force with Nature's might, and of winning the trial. This explains the Arab's proverb, "Voyaging is victory."

And then the Oases, and little lines of fertility - how soft and how beautiful! - Even though the Wady al-Ward (the Vale of Flowers) be the name of some stern flat upon which a handful of wild shrubs blossom. In such circumstances the mind is influenced through the body. Though your mouth glows, and your skin is parched, yet you feel no languor, the effect of humid heat. Your lungs are lightened, your sight brightens, your memory recovers its tone, and your spirits become exuberant. Your fancy and imagination are powerfully aroused, and the wildness and sublimity of the scenes around you stir up all the energies of your soul - whether for exertion, danger, or strife. Your morale improves. You become frank and cordial, hospitable and single-minded. The hypocritical politeness and slavery of civilization are left behind you in the city. There is a keen enjoyment in the mere animal existence. The sharp appetite disposes of the most indigestible food. The sand is softer than a bed of down, and the purity of the air suddenly puts to flight a whole flock of disease.

(1) Explain in your own worlds the Arab proverb "Voyaging is victory." Have you ever felt like that about a trip you've made, or a contest you've been in?

(2) Do you think certain places on earth can actually encourage people to be more vigorous or courageous? Name some and explain why.

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ACTIVITY TWELVE: A FEELING FOR THE EARTH

Worksheet 5: A Mountain in China

The ancient culture of China was certainly one of the most elaborate and refined on earth. As part of that culture, a tradition of landscape painting helped keep strong a link between people and nature. The painting included here is a typical example. What first strikes your eye? Locate the people and buildings. Note their size in relation to the size of the natural area. What does this tell you about the place of people in the natural world, as viewed by this painter?

A famous master of landscape painting, Kuo Hsi, described his view of the proper attitude for a painter of landscapes:

> There are various ways of painting landscapes .... also various ways of looking at landscapes. If we approach them with the heart of forests and streams, their value is high; but if we approach them with the eyes of pride and extravagance, their value is low?

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(1) How would you apply Kuo Hsi's saying to landscape you know? How far does the earth's beauty depend on the attitude of the beholder?

(2) Why do you think the highly civilized Chinese liked to turn often to grand landscapes that dwarfed human beings and their activities? Do you think this sense of proportion can be useful today?

ACTIVITY TWELVE: A FEELING FOR THE EARTH

Worksheet 6: Guilford, Connecticut

In a book called Vital Signs, U.S.A., writer John Fischer describes the town where he lives - Guilford, Connecticut. In the summary of Fischer's description below, look for the citizens' feelings about the place. How do their actions reveal their feelings?

Guilford looks, John Fischer says, like a "Classic New England Country Town." Most houses are traditional salt-box style. There is a white steepled church and an elm-shaded village green. Yet scattered among the trees in and around Guilford are industries that make every-thing from radar components to pharmaceuticals. The industries are often housed in old buildings, such as an abandoned trolley barn. Others are screened by landscaping or wooded areas. No plant is so large that its workers' cars require a big parking lot. In fact, most people prefer to walk or bicycle to work.

Because of its busy industry, Guilford has full employment. Newcomers, such as increasing numbers of Puerto Ricans, are welcomed as employees. However, the Guildford Town Meeting keeps an eye on zoning for the town, to prevent overcrowding and over - development. The Town Meeting has adopted a plan for the future that allows for a blend of tradition and change as time goes on. The plan is regularly reviewed and revised.

Volunteer groups are also important to Guilford life. A recycling committee collects and sells old papers and bottles. The Keeping Society looks after historic houses. The Audubon Society and the land Conservation Trust acquire land to be kept as open space.

Especially valuable to Guilford citizens are the fish just off their coast and the fresh local produce they can buy at their markets, both are protected by carefully monitored pollution standards.

Flying over Guilford today, you would think the area was almost all forest and farmland. The people there have managed to fit a modern way of life into their historic and natural heritage.

(1) What feelings for their home do you think Guilford citizens share with the Pygmies? With the Eskimos? With the Chinese?

(2) Do you think it would be better for the land if industry were kept out of Guilford altogether? What might happen to the town if there were a ban on industry?